

National Research Council Canada

# **Annual Report** 2005 - 2006





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#### Introduction

Research and innovation are critically important to Canada's economic growth and national quality of life. One of Canada's challenges is to ensure that the knowledge created in organizations like the National Research Council (NRC) is transformed rapidly into products, services and technologies that will benefit Canadians and help Canada compete in today's aggressive global marketplace.

NRC is Canada's leading resource for science and technology (S&T) development and commercialization. Over the years, NRC has consistently demonstrated its worth by identifying Canada's science and technology-based opportunities and adapting its R&D, industry support and commercialization services, programs and networks to meet national needs and priorities.

Throughout 2005-06, the National Research Council worked closely with industry, government and academia to increase the competitiveness of Canadian industry through S&T. It has mobilized the public and private sectors to invest in new S&T initiatives and research facilities and to strengthen NRC-initiated technology clusters across Canada. Through the NRC Industrial Research Assistance Program (NRC-IRAP), the NRC Industrial Partnership Facilities (IPFs), and the NRC Canada Institute for Scientific and Technical Information (NRC-CISTI), NRC has helped many small and medium-sized enterprises adopt new technologies, develop new products and services and become more competitive in today's markets.

#### Highlights — 2005-2006

#### New Directions and Commitments for NRC - 2006-2011

The year 2005-2006 was a transitional year for the organization as it repositioned itself for the future. NRC launched its Renewal Initiative at the beginning of 2005-2006 with the aim of developing a new corporate strategy to guide the organization over the next five to ten years. A series of in-depth studies and consultations were completed which identified critical developments in science and technology, key trends in the global economy, and major challenges and opportunities for Canadian industry in the coming years. The five-year NRC strategy that has emerged, **Science at Work for Canada**, expresses NRC's commitment to create sustainable economic and quality-of-life benefits for all Canadians.

The strategy affirms that, while continuing to deliver on all aspects of its mandate, NRC will devote more of its research and technology development resources to resolve enduring issues in health and wellness, sustainable energy and the environment — areas crucial to our future as a nation. In addition, the strategy sets out the pathway to helping NRC become more responsive, agile and integrated in its delivery of services and programs to key sectors of industry. It also commits NRC to seek out new methods and opportunities to increase its R&D capacities and provide industry with fully integrated, nationally accessible business solutions.

# Performance Highlights for 2005-06

In 2005-06, NRC made significant economic contributions to Canada through collaborative research agreements, licensing of its technologies, new companies created, community-based technology cluster initiatives, and other activities.

#### **Economic Impact**

In 2005-2006, NRC launched six new companies to commercialize NRC-created technologies for which there was no identified receptor capacity in Canadian industry. In 2005, investment from all sources in NRC spin-off companies was up significantly, reaching \$123 million, over twice the level of 2004 (\$57 million). This brings the total of new companies created by NRC since 1995 to 67 with close to 700 full-time jobs and an estimated \$462 million in cumulative investment, an increase of 20% from last year.

The continuing success of earlier NRC spin-offs is another indicator of NRC's economic impact. The NRC spin-off, IMRIS, has commercialized intra-operative and functional imaging systems for medical diagnostics and surgery. During 2005-2006, IMRIS received significant funding from investors. In 2005 IMRIS revenue was \$15 million, and this figure is expected to rise to \$25 million in 2006. The NRC spin-off Novadaq, whose core technology is a cardiac imaging device licensed from NRC, went public and raised an investment of \$26 million on the TSX. It also received approval for its imaging device from the US Food and Drug Administration during the last year.

In 2005-2006, NRC signed 393 new formal collaborative research agreements with Canadian partners worth a total of \$78 million. The total number of active collaborative agreements now stands at 941 with a total value of \$394 million over the lifetime of these agreements. The total value figure is a 6% increase over the previous year. The number and value of collaborative agreements are leading indicators that foretell increased research activity with key industry partners. NRC's Canadian partners invest \$1.57 for every dollar NRC invests.

NRC enters into international research agreements to contribute knowledge in areas for which Canada is a leader, gain access to international facilities and research networks, increase international opportunities for Canadian firms, and build new research and technology alliances. In 2005-2006, NRC signed 95 new formal collaborative research agreements with international partners worth \$33 million. NRC's active international collaborative agreements have a total value, over the lifetime of the agreements, of \$141.6 million. NRC's international partners invest \$3.54 for every dollar NRC invests.

Licence agreements show the direct flow of innovative technologies into business applications. By negotiating a licence agreement to use NRC technology, the industrial partner endorses the merit of NRC research. NRC entered into 97 new license agreements in 2005-2006. IP licensing revenue for 2005-2006 was \$5.8 million, a 16% increase from last year. Over the past five years (2001-02 to 2005-06), NRC has earned \$28.7 million in licensing revenue.

Some examples of NRC technology licensed to industry in 2005-2006 include:

- several technologies for plastic, composite and metal-powder based products;
- a new elastomeric pad that improves the performance of railcar bogies:
- a new generation of Band 3 receivers, extremely sensitive instruments that will contribute
  to a project which will incorporate dozens of radio astronomy antennas functioning as a
  single observing platform;

- patented archaeosome adjuvant technology for vaccine development. Because this technology provokes systemic and cell-mediated immunity and, it could be used effectively in vaccine applications against both intracellular and extracellular pathogens and cancer;
- single-domain antibody techniques and phage display libraries to develop antibody-based cancer therapies; and
- single-domain antibody-targeting vectors for brain delivery of drugs and biologics for the treatment of neurodegenerative diseases and brain tumours.

#### Support for Small and Medium-Sized Enterprises (SMEs)

The NRC Industrial Research Assistance Program (NRC-IRAP) is NRC's innovation and technology assistance program. It supports Canadian SMEs by helping them augment their own capacity to innovate and commercialize their innovations.

In 2005-06, NRC-IRAP contributed technical expertise and funding to 2,677 firms (including 340 new ones) for 2,685 innovation projects of which 1,976 were new in 2005-06.

In addition, NRC-IRAP, in partnership with Industry Canada, delivered the Technology Partnership Program (TPC), which is designed to help SMEs develop new and improved technological products, processes or services. In 2005-06, of 106 funded NRC-IRAP/TPC projects, 43 were newly approved.

NRC-IRAP has partnered with the NRC Canada Institute for Scientific and Technical Information (NRC-CISTI) in a pilot program to provide Competitive Technology Intelligence (CTI) to firms via NRC Industry Technology Advisors. As a next step in this initiative, NRC-IRAP will establish an in-house capability to capture CTI and integrate this information into the advice and services it provides to firms — ultimately helping them strengthen their business strategies for greater competitiveness.

As part of its commercialization efforts in 2005-06, NRC put a number of programs and partnerships in place. For example, Biomedical Commercialization Canada Inc. (BCC) was created in Winnipeg, in partnership with governments, academia and the private sector. BCC is a not-for-profit organization that manages the delivery of commercialization programs within NRC Industrial Partnership Facilities.

Another example is BioMed City in Winnipeg, which was established in partnership with universities and colleges, research hospitals, private research institutes, leading firms, financial institutions, venture capital firms, regional development organizations and municipal, provincial and federal governments. BioMed City, a not-for-profit organization, is a strategic attempt to capitalize on the federal and provincial investment to turn Winnipeg into Canada's community of excellence for public health research and innovation. NRC-IRAP signed a contribution agreement with the International Centre for Infectious Diseases to help development and implement BioMed City.

#### International Reach

In 2005-06, NRC signed 95 formal international collaborative research agreements. NRC has signed 444 such agreements since the first in 2002.

During the year, NRC organized 173 international conferences and workshops (up from 160 the previous year) and received 184 foreign delegations (down from 194 the previous year). Over the last five years (2001-02 to 2005-06), NRC has organized 696 international conferences and workshops and received 941 foreign delegations.

#### Community Technology Cluster Initiatives

Over the last five years, the Government of Canada has funded NRC to support the development of technology clusters in communities across Canada. With the initiatives still in early development, NRC continues to nurture their growth by encouraging more involvement, commitment, and leadership from cluster partners. In this leadership role, NRC provides innovative firms with R&D expertise, research assistance and access, a collaborative environment and opportunities for engagement with key players across the community.

In 2005-06, NRC completed the first formative evaluation of its community technology cluster initiatives (those in Atlantic Canada) and secured renewed funding of \$110 million over five years to support Phase II of its initiatives in this region. This brings the Government's investments in NRC's cluster initiatives to \$480 million since 2000.

Other community-based R&D cluster achievements across the country included:

- The NRC Industry Partnership Facility (IPF) in Saskatoon was 97% filled in 2005.
   Collaborative research in the area of plant biotechnology, nutraceuticals and bioproducts, along with incubation of NRC spin-offs, mentoring and technical intelligence gathering all took place in NRC's Saskatoon facilities.
- The NRC Ocean Technology Enterprise Centre (OTEC) in St. John's housed nine companies that worked on developing new technologies with NRC support. During the year, three companies graduated from OTEC, including one from the Young Entrepreneurs Program.
- In October 2005, NRC stepped up its contribution to Winnipeg's growing medical devices cluster by opening the NRC Centre for Commercialization of Biomedical Technology. The Centre is a key element of NRC's clustering strategy and considered by many as a model for public-private sector partnerships.
- The NRC Canadian Photonics Fabrication Centre opened its doors in 2005 and hosted Canada's first-ever "photonics commercialization symposium" in Ottawa. Only five weeks after its official opening, the Centre delivered its first significant shipment of photonic wafers to one of the world's largest laser manufacturers.
- Although the NRC Aluminium Technology Centre has been up and running for less than
  two years, in the last year it has signed collaborative R&D partnerships with several local
  small and medium-sized enterprises and industry giants such as Alcan and General
  Motors.
- In 2005, NRC opened five leading-edge IT and e-Business research labs in Fredericton, in addition to an Advanced Collaborative Environment Lab in Moncton. Both facilities provide invaluable incubation space and mentoring services to the cluster's SMEs.
- NRC Nutrisciences and Health partnered with the PEI BioAlliance in 2005 to establish a
  pilot program that offers customized business advisory services to local bioresources
  companies. The team will offer emerging companies critical support for business model
  development, regulatory processes, exit strategy planning and business execution. They
  will also pair large 'anchor' companies with small businesses in need of established
  industrial partners and sophisticated infrastructure.

Across Canada, in 2005-06 NRC had 116 co-location and Industrial Partnership Facility tenants (up from 109 the previous year). Of these tenants, 22 graduated during the year (up from 14 the previous year). NRC also increased the space available to tenants to 26,820 m2 from 25,397 m2 the previous year.

From 2001-02 to 2005-06, NRC has seen 69 companies graduate from its IPFs.

#### **Highly Qualified People**

In 2005-06, NRC had 1,262 visiting workers (up from 1,246 the previous year). From 2001-02 to 2005-06, NRC hosted 6,087 visiting workers. NRC hosted 262 postdoctoral fellows (up from 253 the previous year) and 118 research associates (down from 152 the previous year). From 2001-02 to 2005-06, NRC hosted 1,245 postdoctoral fellows.

In 2005-06, NRC scientists continued to garner recognition, receiving 105 external awards (up from 75 the previous year). The figure has risen since 2001-02, when NRC scientists received 70 external awards.

#### Excellence and Leadership in Research

Scientific papers in leading peer-reviewed publications and conference proceedings are internationally acknowledged measures of research quality and relevance. They are also a key tool for dissemination of knowledge and the creation of value for Canada in the long-term.

NRC has consistently produced over a thousand peer-reviewed publications each year over the last five years. In 2005-2006, researchers published 1,430 articles in refereed journals (a 10% increase over last year) including two research articles in the highly ranked journal Nature. NRC researchers also published 924 papers for peer-reviewed conferences and 1,515 technical reports.

In 2005-06, NRC organized 273 external conferences, workshops or seminars. From 2001-02 to 2005-06, NRC organized 1,107 conferences, workshops or seminars.

# Research Highlights

Although NRC has progressed strongly in virtually all the areas of research it pursues, researchers in some areas have achieved leading-edge discoveries with broad-ranging potential for industry, health and the environment. Only a few examples follow.

#### Advances in Medical Diagnostics and Treatments

Vaccine development — As part of a research collaboration with a leading multinational vaccine company and Oxford University, NRC obtained proof of principle for a lipopolysacharide-based vaccine strategy against Group B meningitis, a major cause of morbidity and mortality in the developed world. There is currently no approved vaccine against group B meningitis. The LPS-based platform could lead to a second generation vaccine to protect Canadian infants against all groups of this deadly pathogen.

Alternatives to antibiotics — In collaboration with Dow Agrosciences Canada Limited (DASC), NRC researchers are searching for novel alternatives to antibiotics to reduce the risk of food-related disease caused by pathogenic organisms. Antibiotic resistance has posed a significant threat to our ability to control bacterial infections. Research efforts at NRC have focused on Campylobacter jejuni, the leading bacterial cause of food-borne disease in North America. Last year the research team obtained proof of principle for an antibody-based decolonization strategy to reduce the bacterial load in animals. This was a significant achievement towards the development of a new generation of feed-based products. The research team is also exploiting the specificity of unique bacteriophage-binding proteins in the fight against environmental pathogens. Bacteriophages are viruses that attack and kill bacteria.

Neurochip for drug screening and testing — NRC scientists have pioneered the development of a 'neurochip', a complex interface of living neurons or brain tissue with multi-electrode arrays that

can potentially be used in drug screening and diagnostic testing. In collaboration with the firm QBM, University of Ottawa, and partners in Germany, NRC is working to create a Neurochip Consortium as a vehicle for future development and commercialization of this technology.

An eye drop against blindness — Cataracts are the leading cause of blindness worldwide. One of the major pathways implicated in the development of cataracts is protein glycation. NRC has screened compound libraries of existing drugs to identify new inhibitors of protein glycation. Among the compounds identified was isoproterenol, considered safe for humans and known to present high ocular absorbance without reducing intraocular pressure of the eye. Its prodrug (D)-isoproterenol dipivalate hydrochloride prepared in an eyedrop form and applied to diabetic rats proved effective in significantly delaying the initiation of the diabetic cataract in the rat model. This simple and innovative eye-drop product potentially offers a cost-effective alternative to surgery for the prevention and treatment of diabetes-, age-, and smoke-related blindness.

Understanding how heart cells respond to hormonal signals — Thanks to breakthrough research, NRC scientists can now visualize and quantify the nanoscale receptor clusters in heart cells. Using a specialized optical microscopy technique, scientists reveal how receptors on the heart muscle cells respond to hormonal signals from their environment. Essentially, the new imaging technique improves researchers' understanding of how these receptors, the primary transducers of the 'fight or flight' response, accelerate the heart rate. This understanding could ultimately lead to the development of novel therapeutics for regulating heart arrhythmias.

Discovering the molecular controllers of brain adaptation and regeneration — NRC scientists have made significant discoveries about the molecules that control brain adaptation and regeneration after stroke-induced damage, and have discovered molecules (tetracycline derivatives, peptide fragments) that target these processes. These discoveries have resulted in two patent applications, high-impact publications and the award of two new Heart and Stroke Foundation grants (greater than \$400K) for further research and development of these targets.

#### Advances in Nanotechnology

Nanotechnology-based construction materials — NRC has continued exploring new technologies and products for the building industry based on nanotechnology, concentrating on cements, cement-based products and concretes. The addition of nanoscale particles to concrete has shown promise in improving the control of concrete microstructure beyond what is possible with existing technologies. Programming the time-release of chemical admixtures will also provide maximum effectiveness at the construction site, while reinforcing cement binders with carbon nanotubes may produce tougher cement-based products by impeding crack formation. The goal is the development of superior quality materials, leading to more sustainable structures that can better endure severe weather changes and natural disasters.

Nanoimprint lithography — Nanoimprint lithography (NIL), a way of inexpensively manufacturing miniature devices, could become a critical part of future production processes in information technology, medicine and environmental science fields. NRC has progressed significantly in putting its nanoimprint platform and strategy in place, finalizing the implementation of its Nanoimprint Lithography Prototyping Facility. NRC advanced significantly in building the facilities, and acquired several pieces of leading-edge equipment. NRC finalized the design and performance specifications for other key fabrication equipment, scheduled for construction and delivery in 2006-07. A strategic partnership with the Canadian Nano Business Alliance (CNBA) was also put in place, a key step in developing the network and commercial interface that will help companies commercialize innovative products based on this technology.

Nanobiosensors for rapidly detecting bacteria — Nanobiotechnology couples biological elements and electronics to create powerful nanoscale biosensors with applications related to drug screening, clinical diagnostics, toxic substance monitoring in water, air, soil, and food, and the detection of biological warfare agents. NRC, in collaboration with Biophage Pharma Inc., has

developed a new class of nanobiosensors that use Electric Cell-Substrate Impedance Sensing (ECIS) for the rapid and simultaneous detection and identification of microorganisms in water, food, and biological fluids with greater sensitivity than existing technologies. These nanobiosensors constitute an important breakthrough in the speedy detection of living bacteria and will have wide applications in biodefence, environmental monitoring, quality assurance of foods and beverages, and biomedical diagnosis of antibiotic-resistant bacterial infections.

Single-atom tip for use in scanning tunnelling microscope — NRC and University of Alberta researchers have developed the sharpest tip ever known for use as a sensing probe in scanning tunnelling microscopy (STM). A single atom wide, the new probe provides the smallest electron point source ever for STM. The researchers used tungsten atoms to form a sharp or high aspect ratio pyramid that was stabilized with a single-atom coating of nitrogen. Along with STM, the probe has potential applications in atomic force microscopy and could also be used as a physical probe for nanoscale manipulation or for nanoscale point contacts with metals and semiconductors. The probe also has potential to be a very precise source for electron beams and provide stronger image magnification for scanning electron microscopy and transmission electron microscopy. NRC has filed an application to patent this technology.

#### Advances in Alternative Fuels

Hydrogen storage — An international team led by NRC researchers published a milestone paper in Nature that outlines how hydrogen can be stored more safely for fuel cells. They showed how adding just a touch of stabilizer allowed them to store twice as much hydrogen in the gas hydrate framework, compared to any previously published studies. Hydrates are ice-like substances found offshore on the continental margins and in permafrost all over the globe. They form when gas comes into contact with water under the right temperature and pressure conditions. Gas hydrates are an excellent hydrogen source and could potentially become a practical alternative to fossil fuels. They are one of the world's largest untapped reservoirs of energy and, according to some estimates, have the potential to meet global energy needs for the next thousand years.

#### Advances in Plant Biotechnology

Making bigger canola with better oil yield — Since 2003, NRC researchers have been laying the genetic groundwork for a new generation of canola varieties as part of the Genetics of Canola Seed Development and Composition project. Using a variety of genomics techniques, NRC researchers have identified more than 10,000 unique canola genes. They've also built a world-leading library of more than 250,000 Expressed Sequence Tags. This long-term canola genomics research is the foundation for being able to genetically engineer a new generation of canola varieties. An NRC researcher has recently identified a gene that regulates steroid hormone production which in turn affects the rate of plant growth. Once genes are identified, the next challenge will be to manipulate them to produce the desired seed characteristics.

#### Advances in Molecular Sciences

"Filming" chemical reactions in real time — An international research team lead by NRC has, for the first time, "filmed" a chemical reaction in real time from the molecule's point of view. No technology previously existed that could visually capture a chemical reaction completed within a millionth of a millionth of a second. Fortunately, there are ultrashort laser pulses, measured in femtoseconds, which are even faster than this. With one femtosecond laser pulse used as a starter's pistol, a second laser pulse — delayed in time — is used to clock the chemical reaction as it occurs. In this technique, a "picture" of what the molecule is doing at a particular instant is obtained by using the second laser pulse to knock off an electron. Using a combination of techniques, this emitted electron can be analyzed in great detail, providing new information about the chemical process itself. The use of this approach will lead to new thinking about the design of

active materials for "molecular electronics" and a more detailed understanding of biological processes such as vision and photosynthesis.

#### Advances in Microstructural Sciences

Creating building blocks for quantum information technology — In 2002, NRC announced its success in demonstrating that that a single electron could be isolated by purely electrostatic means in a lateral quantum dot device, and its spin controlled by applying voltages. This development led to such devices being considered attractive candidates for quantum bits, the operational element of a quantum computer, since the coupling together of one or more electrons (entanglement) could be controlled by rapidly switching the applied voltages. This year NRC achieved yet another first, demonstrating single electron control and manipulation in a device made up of three quantum dots. This advance has opened a new 'playground' for the construction of designer quantum states for applications in quantum information technology.

#### Advances in the Science of Measurement

Measuring ultraviolet (UV) light for UV-dependent technologies — Throughout the world, new technologies are being developed that require measurement standards before they can be manufactured and traded on global markets. NRC, as Canada's national metrology organization, determines standards and methods of measurement that have a direct impact on the ease with which Canadian firms can trade internationally. As an example, the ultra high-temperature blackbody, a rare physics tool now being readied at NRC, will soon be one of the world's most accurate ways to measure ultraviolet (UV) light. This new tool will reduce calibration uncertainties up to tenfold, providing valuable opportunities for Canadian industries now developing UV-dependent technologies.

#### Advances in Construction Standards

New building codes — NRC developed and published the 2005 Objective-Based National Construction Codes that will ensure uniformity, safety and cost reduction in the construction industry. Approximately 18,000 copies of the 2005 codes have been sold to date. The reaction from the industry — builders, design and engineering practitioners, architects, government representatives and the code-regulatory community, including some 50,000 firms — is very positive. The electronic versions of the model codes and their associated user's guides will be published during the summer of 2006. The federal government, provinces and territories are working toward adopting the 2005 model codes, a process that should be completed by the end of 2006.

#### Advances in Astrophysics

Highly sensitive radio astronomy instrumentation — As part of the most ambitious project ever undertaken in radio astronomy, NRC scientists have been refining electronic components that could dramatically increase insights about the complex molecules in space and the origins of our universe. A new generation of Band 3 receivers, extremely sensitive instruments designed for signals in the 84-116 GHz range, will play a critical part in the operation of the Atacama Large Millimetre Array (ALMA), a powerful facility that is being constructed in northern Chile's high-altitude desert. Once completed, ALMA will incorporate dozens of radio antennas that function as a single observing platform. This telescope is being designed to take in light with wavelengths onthe boundary of the microwave and infrared parts of the electromagnetic spectrum. The cold gases of deep space emit this kind of radiation, which astronomers expect will offer unprecedented insights about the complex molecules found in these recesses of the universe, along with clues to how planets, stars and whole galaxies are formed.

# A Proud Past, a Vital Future

NRC has always foreseen and made a head start on the next generation of technologies and innovations that could help our nation prosper. Much of NRC's success has come from the effectiveness of our partnerships, networks, collaborations, and the national and international committees in which NRC participates.

In the years to come, NRC will continue delivering the programs and activities that have proven effective in generating economic and social benefits and improving the global competitiveness of Canadian firms. Providing technology and advice to SMEs, forging research partnerships with Canadian companies, transferring NRC technologies to industry, and sparking innovation in Canadian communities through our research cluster initiatives – these are just a few of the ways in which NRC helps Canadian companies innovate and successfully commercialize new products and services.

Our objective for the next few years is to see NRC become the 'go-to' national resource for S&T-based innovation in Canada. With the right capabilities and resources to do the job, NRC will deliver on its promise — a promise made to industry, government and all Canadians — to be Science at Work for Canada.

Dr. Pierre Coulombe

President

# **Financial Statements**





#### **AUDITOR'S REPORT**

To the National Research Council of Canada and the Minister of Industry

I have audited the statement of financial position of the National Research Council of Canada (the Council) as at March 31, 2006 and the statements of operations, equity of Canada and cash flow for the year then ended. These financial statements are the responsibility of the Council's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of the Council as at March 31, 2006 and the results of its operations and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

Further, in my opinion, the transactions of the Council that have come to my notice during my audit of the financial statements have, in all significant respects, been in accordance with the *Financial Administration Act* and regulations, the *National Research Council Act* and regulations and the by-laws of the Council.

Sheila Fraser

Sheila Fraser, FCA Auditor General of Canada

Ottawa, Canada June 28, 2006

# **National Research Council of Canada**

# Statement of Management Responsibility

Responsibility for the integrity and objectivity of the accompanying financial statements for the year ended March 31, 2006 and all information contained in these statements rests with the Council's management. These financial statements have been prepared by management in accordance with Treasury Board accounting policies and year-end instructions issued by the Office of the Comptroller General which are consistent with Canadian generally accepted accounting principles for the public sector.

Management is responsible for the integrity and objectivity of the information in these financial statements. Some of the information in the financial statements is based on management's best estimates and judgment and gives due consideration to materiality. To fulfill its accounting and reporting responsibilities, management maintains a set of accounts that provides a centralized record of the Council's financial transactions. Financial information submitted to the *Public Accounts of Canada* and included in the Council's *Performance Report* is consistent with these financial statements.

Management maintains a system of financial management and internal controls designed to provide reasonable assurance that financial information is reliable, that assets are safeguarded and that transactions are in accordance with the *Financial Administration Act*, are executed in accordance with prescribed regulations, within Parliamentary authorities, and are properly recorded to maintain accountability of Government funds. Management also seeks to ensure the objectivity and integrity of data in its financial statements by careful selection, training and development of qualified staff, by organizational arrangements that provide appropriate divisions of responsibility, and by communication programs aimed at ensuring that regulations, policies, standards and managerial authorities are understood throughout the Council.

The role of the Audit, Evaluation, and Risk Management Committee of the National Research Council of Canada, that was established in June 2005, is to ensure that the proper review procedures are in place, to obtain the results of the audits and evaluations, especially in sensitive areas and in areas of concern and to be informed of the corrective actions taken or planned to be taken by management.

The financial statements of the Council have been audited by the Auditor General of Canada, the independent auditor for the Government of Canada

Dr. Pierre Coulombe President

Ottawa, Canada June 28, 2006 Daniel Gosselin, FCA Chief Financial Officer

# National Research Council of Canada Statement of Financial Position as at March 31

(in thousands of dollars)	2006	2005
ASSETS		
Financial Assets		
Due from the Consolidated Revenue Fund	177,097	165,984
Accounts receivable and advances (Note 5)	21,089	25,949
Inventory for resale	3,589	3,334
Capital assets held for sale (Note 8) Equity investments (Note 6)	7,630	7,630
Endowment fund investments (Note 7)	1,055	803
=	<u>4,077</u> 214,537	3,925 207,625
		201,020
Non-Financial Assets		
Prepaid expenses	5,470	4,389
Inventory for consumption	2,216	2,418
Capital assets (Note 8)	543,824	528,579
	551,510	535,386
TOTAL ASSETS	766,047	743,011
LIABILITIES AND EQUITY OF CANADA		
Liabilities		
Accounts payable and accrued liabilities (Note 9)	123,471	109,696
Vacation pay and compensatory leave	36,986	33,552
Deferred revenue (Note 10)	42,794	30,837
Employee future benefits (Note 11)	55,269	49,571
Environmental liabilities (Note 12)	300	300
	258,820	223,956
Equity of Canada	507,227	519,055
TOTAL LIABILITIES AND EQUITY OF CANADA	766,047	743,011

Contingent liabilities (Note 12) and contractual obligations (Note 13)

The accompanying notes form an integral part of these financial statements.

Approved by the Council:

Dr. Pierre Coulombe

President

Daniel Gosselin, FCA Chief Financial Officer

# National Research Council of Canada Statement of Operations for the year ended March 31

(in thousands of dollars)	2006
<b>B W W W W W W W W W W</b>	(Note 3)
Expenses (Note 14)	
Research and development	566,534
Technology and Industry support	266,296
	832,830
Revenues (Note 15)	
Research and development	96,363
Technology and Industry support	63,503
	159,866
Net Cost of Operations	672,964

The accompanying notes form an integral part of these financial statements.

# National Research Council of Canada Statement of Equity of Canada for the year ended March 31

(in thousands of dollars)	2006
	(Note 3)
Equity of Canada, beginning of year	519.055
Net cost of operations	(672,964)
Net cash provided by Government (Note 4)	624,083
Change in due from the Consolidated Revenue Fund	11,113
Services received without charge (Note 16)	25,940
Equity of Canada, end of year	507,227

The accompanying notes form an integral part of these financial statements.

# National Research Council of Canada Statement of Cash Flow for the year ended March 31

(in thousands of dollars)	2006
	(Note 3)
Operating Activities	
Net cost of operations	672,964
Non-cash items	3,2,001
Amortization of capital assets	(57,916)
Gain on sale of equity investments	1.935
Loss on disposal of capital assets	(490)
Services received without charge (Note 16)	(25,940)
Variations in Statement of Financial Position	(20,010)
Decrease in accounts receivable and advances	(4,860)
Increase in inventory for resale	255
Increase in endowment fund investments	152
Increase in prepaid expenses	1,081
Decrease in inventory for consumption	(202)
Increase in liabilities	(34,864)
Cash used by operating activities	552,115
Investment Activities	
Acquisitions of capital assets	74,334
Proceeds from sale of equity investments	(1,683)
Proceeds from disposal of capital assets	(683)
Cash used by investment activities	71,968
Financing Activities	
Net cash provided by Government of Canada (Note 4)	(624,083)

The accompanying notes form an integral part of these financial statements.

#### **National Research Council of Canada**

#### **Notes to the Financial Statements**

Year ended March 31, 2006

#### 1. Authority and Objectives

The National Research Council of Canada (the Council) exists under the *National Research Council Act* (NRC Act) and is a departmental corporation named in Schedule II of the *Financial Administration Act*. The objectives of the Council are to create, acquire and promote the application of scientific and engineering knowledge to meet Canadian needs for economic, regional and social development and to promote and provide for the use of scientific and technical information by the people and the Government of Canada.

In delivering its mandate, the Council reports under the following program activities:

- research and development; and
- technology and industry support.

These program activities also include the Council's priorities of enhancing development of sustainable technology clusters for wealth creation and social capital as well as program management for a sustainable organization.

#### 2. Summary of Significant Accounting Policies

These financial statements have been prepared in accordance with Treasury Board accounting policies and year-end instructions issued by the Office of the Comptroller General, which are consistent with Canadian generally accepted accounting principles for the public sector. The significant accounting policies are:

# a) Parliamentary Appropriations

The Council is financed mainly by the Government of Canada through Parliamentary appropriations. Appropriations provided to the Council do not parallel financial reporting according to Canadian generally accepted accounting principles since appropriations are primarily based on cash flow requirements. Consequently, items recognized in the statement of operations and the statement of financial position are not necessarily the same as those provided through appropriations from Parliament. Note 4 provides a high-level reconciliation between the bases of reporting.

#### b) Net Cash Provided by Government

The Council operates within the Consolidated Revenue Fund, which is administered by the Receiver General for Canada. All cash received by the Council is deposited to the Consolidated Revenue Fund and all cash disbursements made by the Council are paid from the Consolidated Revenue Fund. The net cash provided by Government is the difference between all cash receipts and all cash disbursements including transactions between departments of the federal government.

#### c) Due from the Consolidated Revenue Fund

Due from the Consolidated Revenue Fund represents the amount of cash that the Council is entitled to draw from the Consolidated Revenue Fund without further appropriations.

#### d) Revenues / Deferred Revenue

- Revenue is recognized in the year in which the underlying transaction or event occurred that gave rise to the revenue.
- Revenue from license fees, joint research projects and other sources is deposited to the Consolidated Revenue Fund and is available for use by the Council.
- License fees received for future year license periods are recorded as deferred revenue and amortized over the license period.
- Funds received from third parties for specified purposes are recorded upon receipt as deferred revenue and recognized as revenue in the year in which the related expenses are incurred.
- Contributions of leased capital assets are deferred and amortized to operations on the same basis as the related depreciable capital assets.

#### e) Expenses

- Grants are recognized in the year in which entitlement of recipients has been established, while contributions are recognized in the year the conditions for payment are met.
- Vacation pay and compensatory leave are expensed as the benefits accrue to employees under their respective terms of employment.
- Services received without charge from other government departments and agencies are recorded as operating expenses at their estimated cost.

#### f) Employee Future Benefits

#### i) Pension Benefits

Eligible employees participate in the Public Service Pension Plan, a multiemployer plan administered by the Government of Canada. The Council's contributions to the Plan are charged to expense in the year incurred and represent the Council's total obligation to the Plan. Current legislation does not require the Council to make contributions for any actuarial deficiencies of the Plan.

#### ii) Severance Benefits

Employees are entitled to severance benefits under labour contracts or conditions of employment. These benefits are accrued as employees render the services necessary to earn them. The obligation relating to the benefits earned by employees is calculated using information derived from the results of the actuarially determined liability for employee severance benefits for the Government as a whole.

#### g) Accounts Receivable

Accounts receivable are stated at amounts expected to be ultimately realized; a provision is made for receivables where recovery is considered uncertain.

#### h) Conditionally Repayable Contributions

Conditionally repayable contributions are contributions that, all or part of which become repayable, if conditions specified in the contribution agreement come into effect. Accordingly, they are not recorded on the Statement of Financial Position until the conditions specified in the agreement are satisfied at which time they are then recorded as a receivable and a reduction in transfer payment expenses. An estimated allowance for uncollectibility is recorded where appropriate.

#### i) Contingent Liabilities

Contingent liabilities are potential liabilities, which may become actual liabilities when one or more future events occur or fail to occur. To the extent that the future event is likely to occur or fail to occur, and a reasonable estimate of the loss can be made, an estimated liability is accrued and an expense recorded. If the likelihood is not determinable or an amount cannot be reasonably estimated, the contingency is disclosed in the notes to the financial statements.

#### j) Environmental Liabilities

Environmental liabilities reflect the estimated costs related to the management and remediation of environmentally contaminated sites. Based on management's best estimates, a liability is accrued and an expense recorded when the contamination occurs or when the Council becomes aware of the contamination and is obligated, or is likely to be obligated to incur such costs. If the likelihood of the Council's obligation to incur these costs is either not determinable or unlikely, or if an amount cannot be reasonably estimated, the costs are disclosed as contingent liabilities in the notes to the financial statements.

#### k) Inventory

Inventory for resale and for consumption is recorded at the lower of cost (using the average cost method) or net realizable value. The cost is charged to operations in the year in which the items are sold or used.

#### I) Equity Investments

Equity investments include shares in publicly and privately held companies. Equity investments are typically obtained as a result of debt settlement negotiations or as a result of non-monetary transactions (where financial assistance at better-than-market conditions was provided to firms through access to intellectual property, equipment and incubation space in laboratories) and are recorded at fair value. Fair value of equity investments is based on market prices. If the fair value of equity investments becomes lower than cost and this decline in value is considered to be other than temporary, the equity investments are written down to fair value. If the estimates of the non-monetary transactions cannot be determined, the equity investments are recorded at a nominal value.

#### m) Endowment Fund Investments

Endowments consist of restricted donations subject to externally imposed restrictions stipulating that the resources be maintained permanently. Income from the investment of endowments may only be used for the purposes established by the donors.

Endowments are recognized as an asset when the amount to be received can be reasonably estimated and ultimate collection is reasonably assured. Income from endowments is recorded as deferred revenue and recognized as revenue in the year in which the related expenses are incurred.

Funds received for endowments are invested in bonds and are carried at amortized cost. The premium or discount determined at the time of acquisition is amortized until the security's maturity. Fair value of bonds is based on market prices.

#### n) Foreign Currency Transactions

Transactions involving foreign currencies are translated into Canadian dollar equivalents using rates of exchange in effect at the time of those transactions. Monetary assets and liabilities denominated in a foreign currency are translated into Canadian dollars using the rate of exchange in effect on March 31. Gains and losses resulting from foreign currency transactions are included in other revenues in note 15.

#### o) Capital Assets

All capital assets and leasehold improvements having an initial cost of \$5,000 or more are recorded at their acquisition cost. Contributed capital assets are recorded at market value at the date of contribution. The Council does not capitalize intangibles, works of art and historical treasures that have cultural, aesthetic or historical value. Assets acquired under capital leases are initially recorded at the present value of the minimum lease payment at the inception of the lease. Capital assets held for sale are recorded at the lower of their carrying value or fair value less cost to sell and no amortization is recorded. Amortization of capital assets is calculated on a straight-line basis over the estimated useful life of the asset as follows:

Asset Class	Amortization Period				
Land	Not applicable				
Buildings and facilities	25 years				
Works and infrastructure	25 years				
Machinery, equipment and furniture	10 years				
Informatics equipment	5 years				
Informatics software	5 years				
Vehicles	5 years				
Aircraft	10 years				
Leasehold improvements	Lesser of the remaining term of the lease or useful life of the improvement				
Assets under construction	Once in service, in accordance with asset class				
Leased capital assets	In accordance with asset class				

Where the Council enters into land leases at a nominal value, the transaction is considered as a non-monetary transaction and is recorded at fair value. Fair value of the transaction is based on market prices. If the estimates of the non-monetary transactions cannot be determined, the amount of the transaction is recorded at a nominal value.

#### p) Measurement Uncertainty

The preparation of these financial statements in accordance with Treasury Board accounting policies and year-end instructions issued by the Office of the Comptroller General, which are consistent with Canadian generally accepted accounting principles for the public sector requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenues and expenses reported in the financial statements. At the time of preparation of these statements, management believes the estimates and assumptions to be reasonable. The most significant items where estimates are used are contingent liabilities, environmental liabilities, liability for employee severance benefits, provision for bad debts, and the useful life of capital assets. Actual results could significantly differ from those estimated. Management's estimates are reviewed periodically and, as adjustments become necessary, they are recorded in the financial statements in the year they become known.

#### 3. Comparative Figures

This is the first year that a set of financial statements including Statement of Financial Position, Statement of Operations, Statement of Equity of Canada, and Statement of Cash Flow has been prepared in accordance with Canadian generally accepted accounting principles. It is neither practical nor cost effective for the Council to show certain comparative amounts because some required information is not readily available and some previous year's amounts would not be substantiated with any degree of precision.

#### 4. Parliamentary Appropriations

The Council receives most of its funding through annual Parliamentary appropriations. Items recognized in the Statement of Operations and the Statement of Financial Position in one year may be funded through Parliamentary appropriations in prior, current or future years. Accordingly, the Council has different net results of operations for the year on a government funding basis than on an accrual accounting basis. The differences are reconciled in the following tables:

#### a) Reconciliation of net cost of operations to current year appropriations used

(in thousands of dollars)	2006
Net Cost of Operations	672,964
Adjustments for items affecting net cost of operations but not affecting appropriations:	
Add (Less):	
Revenue	159,866
Financial arrangements	(58,842)
Amortization of capital assets	(57,916)
Services received without charge	(25,940)
Specified purpose accounts disbursements	(20,994)
Employee future benefits	(5,698)
Vacation pay and compensatory leave	(3,434)
Increase in payment-in-lieu of taxes accrual	(670)
Increase in litigation claim expense accrual	(538)
Loss on disposal of capital assets	(490)
Expenses related to Justice Canada	(486)
Recovery of bad debts	745
Refunds of previous year's expenditures	719
Other	109
Total items affecting net cost operations but not affecting appropriations	(13,569)
Adjustments for items not affecting cost of operations but affecting appropriations:  Add (Less):	
Acquisitions of capital assets and additions to assets under construction	74,334
Increase in prepaid expense	1,081
Increase in inventory	53
Total items not affecting cost of operations but affecting appropriations	75,468
Current year appropriations used	734,863

# b) Reconciliation of Parliamentary appropriations provided to current year appropriations used

(in thousands of dollars)	2006
Parliamentary appropriations provided:	
Vote 55 - Operating expenditures	356,428
Vote 55 - Governor General's special warrants	37,877
Vote 60 - Capital expenditures	53,919
Vote 60 – Governor General's special warrants	13,548
Vote 65 – Grants and contributions	113,760
Vote 65 – Governor General's special warrants	27,070
Statutory amounts: Revenues pursuant to paragraph 5(1)(e) of the National Research Council Act	125,839
Contributions to employee benefit plans	56,606
Proceeds from the disposal of surplus Crown assets	683
Collection agency fees	66
Less:	
Revenues available for use in subsequent years	(40,628)
Lapsed appropriations	(10,305)
Current year appropriations used	734,863

# c) Reconciliation of net cash provided by Government to current year appropriations used

(in thousands of dollars)	2006
Net cash provided by government	624,083
Revenue	159,866
Receipts and expenditures not affecting appropriations	(88,658)
Change in due from the Consolidated Revenue Fund	
Decrease in accounts receivable and advances	4,860
Increase in endowment fund investments	(152)
Increase in liabilities	34,864
Current year appropriations used	734,863

#### 5. Accounts Receivable and Advances

(in thousands of dollars)	2006	2005
Accounts receivable from external parties	18,642	22,105
Accounts receivable from other Federal Government departments and		
agencies	3,536	5,690
Employee advances	54	65
	22,232	27,860
Less: allowance for doubtful accounts on external accounts receivable	(1,969)	(2,429)
	20,263	25,431
Repayable contributions	7,553	1,314
Less: allowance for uncollectibility	(6,727)	(796)
Net repayable contributions	826	518
Total	21,089	25,949

#### 6. Equity Investments

Equity investments include shares in publicly and privately held companies. Of all portfolio investments where the Council holds an equity position, three were for debt settlements for a total value of \$537,135 (three valued at \$537,135 in 2005) and twenty-two were obtained by non-monetary transactions (twenty-one in 2005), of which eleven are inactive or have filed for bankruptcy. Estimates of the non-monetary transactions cannot be determined, as the value of the financial assistance is highly speculative.

The fair value of the equity investments as at March 31, 2006 was \$1,567,687 (2005, \$971,996).

#### 7. Endowment Fund Investments

This account was established pursuant to paragraph 5(1)(f) of the *National Research Council Act* to record the residue of the estate of the late H.L. Holmes. Up to two thirds of the endowment fund's yearly net income is used to finance the H.L. Holmes award on an annual basis. The award provides the opportunity to post-doctoral students to study at world famous graduate schools or research institutes under outstanding researchers.

(in thousands of dollars)	2006
Restricted cash and investments, beginning of year	3,925
Net income from endowment	232
Awards granted	(80)
Restricted cash and investments, end of year	4,077

The portfolio had an average effective return of 5.53% (5.07% in 2005) and an average term to maturity of 5.21 years as at March 31, 2006 (4.78 years as at March 31, 2005). The fair value of the endowment investments as at March 31, 2006 was \$4,135,889 (2005, \$4,038,972).

#### 8. Capital Assets

(in thousands of dollar	rs)	Cost				Accumulated amortization						
Capital asset class	Opening balance	Acquisi- tions	Transfers, disposals and write- offs	Closing balance		Opening balance	Amortiz- ation	Disposals and write- offs	Closing balance		2006 Net book value	2005 Net book value
Land	10,912	-	-	10,912		_	-	_			10,912	10,912
Buildings and facilities	544,111	359	34,829	579,299		(272,317)	(21,458)	-	(293,775)		285,524	271,794
Works and infrastructure	19,454	13	730	20,197		(10,734)	(695)	-	(11,429)		8,768	8,720
Machinery, equipment and furniture	416,458	31,623	(7,906)	440,175		(250,615)	(26,896)	6,787	(270,724)		169,451	165,843
Informatics equipment	72,836	4,302	(9,491)	67,647		(57,751)	(5,188)	9,425	(53,514)		14,133	15,085
Informatics software	6,529	1,474	4,236	12,239		(1,603)	(1,822)	1	(3,424)		8,815	4,926
Vehicles	2,554	350	(193)	2,711		(1,930)	(239)	171	(1,998)		713	624
Aircraft	10,348	295	-	10,643		(8,833)	(187)	-	(9,020)		1,623	1,515
Leasehold improvements	3,907	-		3,907		(2,618)	(1,031)	-	(3,649)		258	1,289
Assets under construction	40,871	35,918	(39,762)	37,027		-	-	-	•		37,027	40,871
Leased capital assets	10,000	-	-	10,000		(3,000)	(400)	-	(3,400)		6,600	7,000
Total	1,137,980	74,334	(17,557)	1,194,757		(609,401)	(57,916)	16,384	(650,933)		543,824	528,579

Amortization expense for the year ended March 31, 2006 is \$57,915,678.

During the normal course of operations, the Council entered into eight land lease agreements (eight in 2005) for a nominal annual cost of one dollar with universities. In these instances, the Council owns the building on the leased land. The fair value of these non-monetary transactions cannot be determined.

On March 21, 1996, the Council entered into a non-monetary transaction. The Council entered into a lease agreement with the University of Western Ontario for the relocation of the Integrated Manufacturing Technologies Institute (IMTI) whereby leased property was provided to the Council for twenty-five years at a nominal cost of one dollar. The Council has no obligations to the University of Western Ontario other than the relocation of the institute. The building was recorded as a leased capital asset at its fair value of \$10,000,000. The annual amortization of the capital asset of \$400,000 is exactly offset by the amortization of the deferred contribution related to the leased building.

On March 28, 2002, the Council entered into a non-monetary transaction with the University of Alberta. The Council entered into a lease agreement with the university for the housing of the Council's newly created National Institute for Nanotechnology (NINT), whereby leased property was provided to the Council at a nominal cost of one dollar for a period ending no later than July 25, 2007. The transaction was recorded as an operating lease where a revenue and an expense were recorded for \$342,000.

On December 12, 2002, the Council reached an agreement with the University of British Columbia to relinquish an existing land lease and the building thereon for \$15,000,000. These proceeds are recorded and presented as deferred revenue (\$4,900,000 in 2005) until the disposal occurs in 2007.

The following table shows the carrying value of the capital assets held for sale:

(in thousands of dollars)	Cost	Accumulated amortization		
Capital assets held				·
for sale	10,674	(3,044)	7,630	7,630

#### 9. Accounts Payable and Accrued Liabilities

(in thousands of dollars)	2006	2005
Suppliers	98,175	88,023
Payable to other Federal Government departments and agencies	15,339	13,139
Accrued salaries, wages and employee benefits	7,965	6,464
Sales tax payable	1,127	1,007
Contractor holdbacks	865	1,063
Total	123,471	109,696

#### 10. Deferred Revenue

(in thousands of dollars)	2006
Deferred revenue - specified purpose accounts	
Balance, beginning of year	11,054
Funds received	22,536
Revenue recognized	(20,994)
Balance, end of year	12,596
Deferred revenue - other	
Balance, beginning of year	12,783
Funds received	18,614
Revenue recognized	(7,799)
Balance, end of year	23,598
Deferred revenue – contributions related to leased capital assets	
Balance, beginning of year	7,000
Contributions received	-
Contributions recognized as revenue	(400)
Balance, end of year	6,600
Total	42,794

# 11. Employee Future Benefits

Employees of the Council are entitled to specific benefits on or after termination or retirement, as provided for under various collective agreements or conditions of employment.

#### a) Pension benefits

The Council and all eligible employees participate in the Public Service Pension Plan, which is sponsored and administered by the Government of Canada. Pension benefits accrue up to a maximum of 35 years at a rate of two percent per year of pensionable service, times the average of the best five consecutive

years of earnings. The benefits are integrated with Canada/Quebec Pension Plans benefits and they are indexed to inflation.

The expense amounts to \$41,888,165 which represents approximately 2.6 times the contributions by employees. Both the employees and the Council contribute to the cost of the Plan. As at March 31, 2006, the contributions are as follows:

(in thousands of dollars)	2006
Council's contributions	41,888
Employees' contributions	15,818

The Council's responsibility with regard to the Plan is limited to its contributions. Actuarial surpluses or deficiencies are recognized in the financial statements of the Government of Canada, as the Plan's sponsor.

#### b) Employee severance benefits

The Council provides severance benefits to its employees based on eligibility, years of service and final salary. These severance benefits are not pre-funded. Benefits will be paid from future appropriations. Information about the severance benefits, measured as at March 31, is as follows:

(in thousands of dollars)	2006
Accrued benefit obligation, beginning of year	49,571
Expense for the year	8,707
Benefits paid during the year	(3,009)
Accrued benefit obligation, end of year	55,269

# 12. Contingent Liabilities

#### a) Environmental liabilities

Liabilities are accrued to record the estimated costs related to the management and remediation of contaminated sites where the Council is obligated or likely to be obligated to incur such costs. The Council has identified one site (one site in 2005) where such action is possible and for which a liability of \$300,000 (\$300,000 in 2005) has been recorded. The Council's ongoing efforts to assess contaminated sites may result in additional environmental liabilities related to newly identified sites, or changes in the assessments or intended use of existing sites. These liabilities will be accrued by the Council in the year in which they become known.

#### b) Claims and litigation

Claims have been made against the Council in the normal course of operations. Some of these potential liabilities may become actual liabilities when one or more future events occur or fail to occur. To the extent that the future event is likely to occur, and a reasonable estimate of the loss can be made, an estimated liability is accrued and an expense recorded on the Council's financial statements.

As at March 31, 2006, the Council had seventeen claims (eleven in 2005) outstanding of which five (none in 2005) related to pending charges that will likely result as a liability. Four of the claims can be reasonably estimated and one is currently undeterminable. A total accrued liability of \$537,600 (nil in 2005) was recorded based on the Council's legal assessment of potential liability.

With respect to the claim for which the estimate of loss is undeterminable, the Research Council Employees Association (RCEA) filed a pay equity complaint, in 1999-2000, against the Council alleging

that discrimination based on sex had occurred between 1985 and 2000. The RCEA requested that the Council retroactively increase the wage rates of employees to remedy the discrimination. In the opinion of management, the outcome of the complaint will result in a loss for the Council. The potential financial impact of this case could be significant however the amount of the liability cannot be reasonably estimated. Therefore, no liability has been recognized in the financial statements. This liability will be accrued by the Council in the year in which the amount of the loss can be reasonably estimated.

#### 13. Contractual Obligations

The nature of the Council's activities can result in some large multi-year contracts and obligations whereby the Council will be obligated to make future payments when the services/goods are received. Significant contractual obligations that can be reasonably estimated are summarized as follows:

(in thousands of dollars)	2007	2008	2009	2010	2011 and thereafter	Total
Transfer payments	104,520	64,932	55,898	55,000	24,000	304,350
Operating contracts	7,391	1,977	885	235	73	10,561
Total	111,911	66,909	56,783	55,235	24,073	314,911

#### 14. Expenses

(in thousands of dollars)	2006
Salaries and employee future benefits	395,985
Grants and contributions	129,902
Utilities, materials and supplies	87,746
Professional services	64,044
Amortization	57,916
Transportation and communication	26,667
Bad debts	23,879
Repairs and maintenance	17,616
Payments in lieu of taxes	15,373
Rentals	5,460
Information	4,492
Awards	2,261
Cost of goods sold	838
Loss on disposal of capital assets	490
Other	161
Total	832,830

#### 15. Revenues

(in thousands of dollars)	2006
Sales of goods and services	
Rights and privileges	5,834
Lease and use of property	3,060
Services of non-regulatory nature and other fees and charges	56,097
Sales of goods and information products	11,981
	76,972
Financial arrangements	58,842
Revenues from joint project and cost sharing agreements	20,994
Gain on sale of equity investment	1,935
Other	1,123
Total	159,866

#### 16. Related Party Transactions

The Council is related as a result of common ownership to all Government of Canada departments, agencies, and Crown corporations. The Council enters into transactions with these entities in the normal course of business and on normal trade terms. Refer to Note 5 and Note 9 for receivable and payable to other Government departments and agencies. Also, during the year, the Council received services, which were obtained without charge from other Government departments. These services without charge have been recognized in the Council's Statement of Operations as follows:

(in thousands of dollars)	2006
Employer's contributions to the health and dental insurance plans provided by Treasury Board	24,478
Audit services provided by the Office of the Auditor General of Canada	427
Legal services provided by Justice Canada Workers' compensation benefits provided by Human Resources and Social Development Canada	376 336
Payroll services provided by Public Works and Government Services Canada	163
Accommodation provided by Public Works and Government Services Canada	160
Total	25,940

The total of legal services provided by Justice Canada amount to \$862,638. From this amount, \$376,326 was provided without charge.

#### 17. Financial Instruments

The Council's financial instruments consist of accounts receivable and advances, investments, accounts payable and accrued liabilities, and deferred revenue. Unless otherwise noted, it is management's opinion that the Council is not exposed to significant interest, currency or credit risk arising from these financial instruments. Unless otherwise disclosed in these financial statements, management estimates that the carrying values of the financial instruments approximate their fair value due to their impending maturity.

# Financial Statement Discussion and Analysis

# **Financial Statement Discussion and Analysis**

The following financial statement discussion and analysis (FSD&A) should be read in conjunction with the audited financial statements and accompanying notes of the National Research Council of Canada (NRC) for the fiscal year ended March 31, 2006. These financial statements have been prepared in accordance with Treasury Board accounting policies and year-end instructions issued by the Office of the Comptroller General which are consistent with Canadian generally accepted accounting principles (GAAP) for the Public Sector. The FSD&A has been prepared following the Public Sector Statement of Recommended Practice SORP-1.

Responsibility for the preparation of the FSD&A rests with the management of the NRC. This FSD&A is limited to discussion of the current financial results of the NRC for 2005-06. Additional performance information will be available in the NRC Departmental Performance Report for 2005-06.

The FSD&A consists of three parts: Highlights, Financial Risk and Uncertainty, and Financial Analysis. All financial information presented herein is denominated in Canadian dollars, unless otherwise indicated.

#### **Special Note Regarding Forward Looking Statements**

The words "estimate", "will", "intend", "should", "anticipate" and similar expressions are intended to identify forward looking statements. These statements reflect assumptions and expectations of NRC, based on its experience and perceptions of trends and current conditions. Although NRC believes the expectations reflected in such forward-looking statements are reasonable, they may prove to be inaccurate and consequently NRC's actual results could differ materially from our expectations set out in this FSD&A. In particular, the risk factors described in the "Financial Risk and Uncertainty" section of this report could cause actual results or events to differ materially from those contemplated in forward-looking statements.

# **Highlights**

#### Audit

Over the last number of years, the Government of Canada has been carrying out a government-wide project to improve the quality of financial management and internal control, an initiative embraced by NRC. An important part of this project is improving the effectiveness of financial management practices and applying the accrual method of accounting to prepare financial statements. This requires dual accounting, as the NRC is still required to use the modified cash method to report on some financial results to the Government of Canada.

In order to ensure that it was on track with this initiative, NRC undertook to have its financial statements for 2005-06 audited by the Office of the Auditor General, in accordance with Canadian generally accepted accounting principles (GAAP) for the Public Sector and Treasury Board accounting policy. NRC is very proud to state that it is being used as a model for other government departments in their transition to audited financial statements.

#### **NRC Renewal**

The NRC Renewal Initiative was launched in January 2005 with the purpose of renewing the current Vision (which expires in 2006) and developing a new strategy for NRC that could guide the organization successfully over the next 5 years to 10 years. This project consisted of three phases, all of which occurred to some extent in 2005-06. Phase 1 which began in February 2005 until August 2005, identified NRC's internal competencies, as well as its external opportunities.

Phase 2 which occurred from June 2005 to December 2005 defined key strategic directions for NRC in light of its competencies and external environment. The final phase, which began in January 2006, comprised of the development of the actual business strategy. This strategy – Science at Work for Canada – was approved by the NRC Council in March 2006.

#### Governance

In keeping with the broad government goal of improved management in the public sector, and as a result of its own internal Renewal project to define the NRC Business Strategy for 2006-2010, NRC has implemented a number of initiatives to improve its governance. These initiatives started with implementing changes to the NRC Council and included a redefinition of the role of the NRC Council, revised terms of reference for Council's Executive Committee and proposed terms of reference for three new standing committees. One of these committees' mandate relates to Audit, Evaluation and Risk Management; another deals with Human Resources and the third committee is mandated in the area of NRC Planning and Priorities. The first two committees have been put into place.

As part of the NRC Renewal initiative, NRC Senior Executive Committee (SEC) established a Strategy and Priorities Committee (SPC). The committee reports to SEC and served as the steering committee for Renewal. It will continue to stand and provide senior management with ongoing advice on NRC priorities and strategic direction.

A significant change in how NRC manages its research institutes and programs was implemented with the introduction of portfolio management. Under this new structure, the Vice Presidents have a greater role in setting the strategic direction of the institutes and allocating resources to these priorities. Once fully implemented, portfolio management will improve NRC's ability to undertake and manage cross institute projects, as well as ensure that research is well aligned with NRC's corporate vision and strategic priorities.

NRC adopted the financial management model proposed by the Office of the Comptroller General which holds a Chief Financial Officer (CFO) accountable to both the Comptroller General and the department head for financial management in the organization. At NRC the position reports directly to the President and is a key player on NRC's Senior Executive Committee. In support of the CFO model, NRC began measures in 2005-06 to centralize the finance function, place financial advisors in each Vice President portfolio and require sign off of financial information by each responsible manager. Full implementation of these changes should occur in 2006-07 and will result in even greater accountability at all levels in the organization for sound financial management.

In addition to changes in the finance structure, in 2005-06 NRC implemented a much more rigorous cycle for the planning and review of spending and revenue. It also implemented a Budget Advisory Committee to analyze and make recommendations to Senior Executive Committee on financial issues. It also began work on an integrated planning and performance cycle to ensure that business plans at the institute program level align with NRC's priorities and that program results are measured against these priorities.

Another significant initiative undertaken in 2005-06 was the introduction of a Risk Management Framework for NRC. This framework identified the major risk areas for NRC and the strategies required to minimize this risk. The methodology which supports risk management was introduced to the institutes on a pilot basis, and risk analysis will be integrated into the NRC business planning cycle in the future.

#### Revenue

Revenue is important to NRC, not only as a means of financing its operating and capital expenditures, but also because it provides an indication of the value that NRC provides to its clients and collaborators.

NRC earns revenue from several sources. Royalty revenue is earned from licensing the rights to use NRC technology. Royalties are typically based on a percentage of the licensee's sales. In 2005-06 NRC generated \$5.8 million in royalties. Of this total, \$3.8 million was earned from NRC's Institute for Biological Science, primarily for the license of the Meningitis C vaccine.

Facilitating access to NRC researchers and facilities is an important part of technology transfer at NRC. To this end, NRC provides laboratory space to companies on a commercial basis, often as part of a collaboration or technology transfer agreement. Revenue from lease and use of property amounted to \$3.1 million in 2005-06.

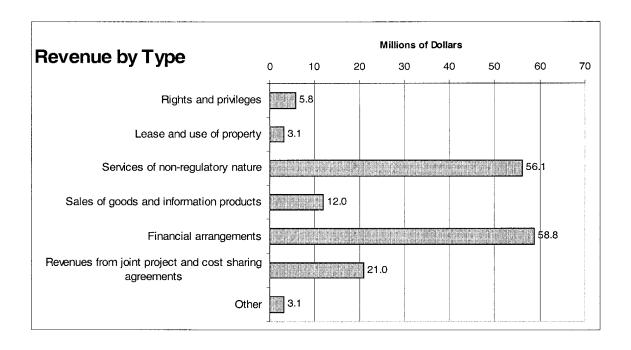
In 2005-06, 35% of NRC revenue (\$56.1 million) was generated from the provision of research services directly to industry and academic clients. In 2005-06, NRC's Institute for Aerospace Research (IAR) and Canadian Institute for Scientific and Technical Information (CISTI) accounted for over half of NRC's service revenue.

As part of its goal to disseminate scientific and technical information of importance to industry, NRC has publications and certified reference materials that it sells to clients. Total sales of goods and information products were \$12.0 million in 2005-06. Part of this revenue was related to the release of the 2005 editions of the Model National Construction Codes. In order to facilitate the online purchasing of these documents, NRC developed an internet sales capability. From the release of the codes to March 31, 2006, approximately \$2.6 million in Code documents were ordered, with approximately 44% of the transactions taking place via the NRC Virtual Store. It is estimated that the use of the internet to process Codes sales has resulted in savings of approximately \$125 thousand for NRC from September 2005 to March 2006. In addition, significant savings in the average order processing time resulted from a thorough review and improved coordination of processing procedures while developing the NRC Virtual Store.

NRC undertakes research on behalf of the other Government Departments, called Financial Arrangements, and is reimbursed the incremental costs associated with this work. In 2005-06, significant work with other Government Departments was undertaken totaling \$58.8 million. Most of this work was with the Department of National Defence (\$25.2 million) and Natural Resources Canada (\$7.3 million). Also included in the Financial Arrangement revenue is \$18.8 million from Industry Canada through Technology Partnerships Canada. This amount was received by NRC as part of a repayable contribution program and was used to provide contributions to firms (\$16.2 million) and cover operating costs associated with the program (\$2.6 million).

NRC also receives income through collaborative research projects which are cost sharing arrangements that focus on work likely to lead to new expertise or technology. Collaborative funding was earned across sectors at NRC for a total of \$21.0 million.

The breakdown of NRC revenue by type is as follows:



#### **Expenses**

NRC's expenses in 2005-06 were \$832.8 million, with approximately 47.5% of this representing salary and benefits costs. Grants and contributions costs totaled \$129.9 million, with most of this funding going to small and medium sized enterprises through NRC's Industrial Research Assistance Program (IRAP).

Of particular note in 2005-06 is NRC's bad debt expense of \$23.9 million. This is primarily due to the review of the IRAP Technology Partnership Repayable Contribution Program that was undertaken in 2005-06. This program provided conditionally repayable contributions to small and medium sized enterprises (SMEs) to support the pre-commercialization phase of their technology development. The program funded up to 33% of the expected total project costs with the firm required to finance the balance. Firms were required to conditionally repay these contributions based on their revenues, meaning that for example, if a firm did not earn any revenue, no repayments were required. This program was targeted to SMEs, many of which were start ups with one technology. Failure to bring the technology to market due to technical or business challenges resulted, at times, in the firms ceasing operations and thus defaulting on their repayment obligations. Further details can be found in the Financial Analysis Section under Accounts Receivable.

**Expenditures by Type** Millions of Dollars 100 150 200 250 300 350 400 450 396.0 Salaries and employee future benefits Grants and contributions 129.9 Utilities, materials and supplies 87.7 Professional services 64.0 Amortization 57.9 Transportation and communication Bad debts 23.9 Repairs and maintenance Payments in lieu of taxes 15.4

The significant categories of expenses for 2005-06 are as follows:

# **Financial Risk and Uncertainty**

NRC expects to face significant budget constraints over the coming years, from both internal and external pressures.

As a Federal Government Departmental Corporation, NRC funds the majority of its salary, operating and capital expenditures (78% in 2005-06) from allotments from the government. The non salary portion of this funding is fixed with no indexing for price increases. As a result, the actual funding for NRC, in terms of buying power, has been declining over the past decade. In particular, the increase in cost related to property taxes and utilities is significant for NRC.

NRC owns and manages 186 specialized buildings that comprise approximately 525,958 square meters of space. It also has an equipment and informatics base of approximately \$202.6 million, net book value. NRC's capability to fund the upgrade or replacement of these assets from its appropriations is limited, and it will need to secure sources external to NRC for this purpose.

In the last 2 years, the federal government announced a series of budget reductions across federal departments as part of its realignment strategy and initiative to increase its efficiency. The impact on NRC was significant and challenging. Further, in the 2006 federal budget, an additional program review exercise was announced by the government. The actual impact on NRC is not yet known.

To help position itself to meet these challenges, NRC implemented changes in 2005-06 in its governance structure and made significant progress towards the development of a new, focused Business Strategy (as detailed in the section Highlights previously). Both of these initiatives will improve the planning, allocation and monitoring of resources, which will in turn help alleviate some of the financial pressures currently being felt by NRC.

In addition, NRC has commenced a thorough resource allocation review to ensure research in priority areas defined in its Strategy is appropriately funded in the future. Also, significant efforts, that engage the Minister of Industry and Central agencies, have begun which are aimed at finding ways to address the external budget pressures.

Details of other factors influencing NRC's budget pressures and uncertainty are provided below.

# Sunsetting Funding

In order to ensure value for money, it has been the practice of Treasury Board over the last number of years to provide funding for new initiatives on a sunsetting basis. This means that a permanent increase in the NRC allotment from the government is not provided, but rather funding is provided on a five year basis, with the option for renewal. Renewal is conditional on performance and availability of funding. While this is recognized as a good management practice for the government in the whole, it does create some level of uncertainty and instability in a research organization such as the NRC.

Although funding is not necessarily provided on an ongoing basis, new, government-approved initiatives, such as the establishment of technology cluster sites in centres across Canada, often entail an ongoing commitment from NRC in terms of the construction and maintenance of new, specialized facilities, and the hiring of staff. There is also an expectation by the communities which support, and in some cases invest in, these new initiatives that they will exist beyond the five year funding window. NRC must always be aware in its planning that funding might not be renewed, and that it may have to support these initiatives from its limited fixed allotments.

## Foreign Currency

NRC purchases roughly \$50 million per year in currencies other than the Canadian dollar, which exposes NRC to fluctuations in foreign exchange. The majority of foreign purchases (86% average over last three years) are transacted in U.S. dollars. Due to the strengthening Canadian dollar over the last year, NRC benefited from an increase in our purchasing power over 2003-04 levels of approximately \$4 million U.S. Continued upswing of the Canadian dollar will benefit NRC, whereas a future decline in the Canadian Dollar relative to the U.S. dollar will have the effect of decreasing NRC's purchasing power.

The 2005-06 gain in purchasing power was somewhat negated by the reduction in Canadian dollars received from foreign sales. In 2005-06, NRC received \$31.7 million Cdn on sales of \$26.6 million U.S. By way of comparison, in 2003-04, NRC received \$35.9 million Cdn from \$26.5 million U.S. in sales.

NRC does not use any financial instruments to hedge foreign currency fluctuations.

### Dependence on Revenue

NRC's dependence on external sources of funding has been growing since the early 1990's. The portion of NRC's operating and capital expenditures funded from external sources of income was roughly 11% in 1991-92. By 2005-06, this percentage had climbed to over 22%.

In particular, NRC has Centres that rely on external sources of revenue to fund the majority of their operations, namely the NRC-Centre for Surface Transportation and the NRC-Canadian Hydraulics Centre. In addition, NRC's two largest institutes – the NRC-Institute for Aerospace Research, and the NRC-Canada Institute for Scientific and Technical Information (with expenditures in 2005-06 of \$46.2 million and \$48.1 million respectively) rely on external sources of revenue to fund almost half of their operations. Significant downturns in the industries or

federal departments that these groups support will greatly impact NRC's ability to continue operations at current levels.

Finally, it is important to note that NRC must strike a fine balance between providing contract research services that generate the needed revenue, and performing the government funded research that keeps NRC at the leading edge. Too much emphasis on revenue generating contract research could compromise NRC's advanced knowledge and technology base, which in the long term will reduce NRC's ability to serve industry and respond to the needs of the nation in critical fields such as energy, the environment, chronic diseases and other priority fields outlined in the Strategy.

# Financial Analysis

In order to comply with generally accepted accounting principles for the Public Sector, NRC changed the way it recorded certain financial information in 2005-06. To ensure continuity, closing balances on the balance sheet as at March 31, 2005 were restated to reflect these changes. Details of the significant changes, as well as other general information can be found below.

## Due from Consolidated Revenue Fund

This amount represents an amount of cash that the NRC is entitled to draw from the Federal Government treasury. This amount consists of cash to discharge its liabilities for which NRC has already received an appropriation, as well as revenue received but not spent. In previous years, this amount was not recorded in NRC's financial statements. It was established in 2005-06 and March 31, 2005 was restated to reflect this new policy.

The change in this account between 2005 and 2006 of \$11.1 million is due to the increase in accrued liabilities and deferred revenue offset by a decrease in revenue carryforward.

# Accounts Receivable

## IRAP / TPC

The Industrial Research Assistance Program (IRAP) of NRC has delivered the IRAP-TPC Program since 1998 on behalf of Technology Partnerships Canada (TPC), a special operating agency of Industry Canada. This program provides conditionally repayable contributions to SMEs to support the pre-commercialization phase of their technology development. This conditional repayment program in most cases required quarterly repayments of the contribution based on a percentage of the recipient's gross revenue. This program terminated March 31, 2006 although it will continue to fund, and require repayment from existing agreements during the wind down phase.

It is important to note that this program supported small start-up firms, whose future success was often entirely dependent on one technology. Failure to bring the technology to market, at times, resulted in the firm ceasing operations. However, even with the high risk nature of this program, to date NRC has received repayments amounting to approximately 17% of contributions disbursed; and with over 300 projects still being administered, this percentage is expected to increase over the next decade.

During fiscal year 2005-06, NRC undertook a major initiative to follow-up all active contribution agreements in order to determine whether the repayment phase conditions had been met. As a result of this exercise, \$35.6 million in invoices were issued for repayment in 2005-06. An amount of \$17.6 million was written-off as uncollectible. An amount of \$11.4 million was received from firms, and forwarded back to Industry Canada. As at March 31, 2006, there was a balance

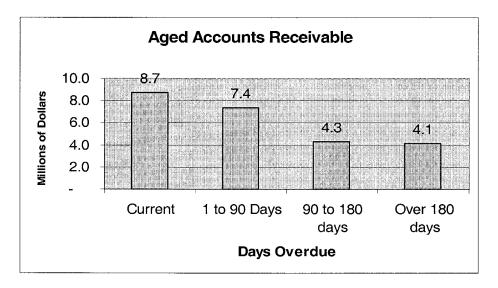
of \$7.6 million in accounts receivable with respect to this program with a corresponding allowance for doubtful accounts at \$6.7 million.

Such a substantial IRAP-TPC write-off is expected to be a one-time occurrence as this amount represents the value of the debt relating to firms that had ceased operations over the last few years.

## Trade Receivables and IRAP Audit Recoveries

NRC had accounts receivables with external clients worth \$22.2 million on its books as at March 31, 2006 with a corresponding allowance for doubtful accounts equal to \$2.0 million. This amount represents receivables for work done with external clients as well as receivables for audit findings for IRAP. The amount at March 31, 2006 is a reduction over the previous year primarily due to the collection of several large accounts. Write offs in 2005-06 were \$637 thousand which is quite low given the value of NRC revenue.

The aging of the accounts receivable as at March 31, 2006 (including TPC and excluding other government departments and accrued receivables) is as follows:



# Inventory for Resale

NRC produces a number of products that are purchased by external clients, namely the Model National Construction Codes, Monographs and Certified Reference Materials. Historically the costs incurred to produce these products were expensed as incurred and therefore no inventory values were established for quantities on hand. In 2005-06, the method of accounting for inventory for resale was changed and the opening and closing inventory balances were adjusted to reflect a value equal to the lower of cost or market. Cost of Sales was also amended to be recorded at the cost value.

Inventory for resale went up by approximately \$255 thousand over 2005 closing values due to the addition of the 2005 Model National Construction Codes, as well as new Certified Reference Materials.

## Capital Asset Held for Sale

NRC currently occupies a building on leased land on the campus of the University of British Columbia (UBC) in Vancouver. At the request of UBC, NRC agreed to construct a new building on the campus and relinquish the existing building and land lease for \$15.0 million. As there is a signed agreement relating to the sale of this building, the building is being reflected as a financial asset.

## **Equity Investments**

As part of its mandate to promote industrial innovation in Canada, NRC provides financial assistance to firms through access to equipment, intellectual property and incubation space in laboratories and in the organization's Industry Partnership Facilities.

Since these companies are very often in their infancy and cannot afford to pay the full cost of the assistance received from NRC, NRC on occasion takes an equity position in the company in return for the assistance provided. This helps the firms survive the critical technology development stage. In turn, it allows NRC to earn a return that somewhat reflects the risk taken, should the company become successful.

In prior years, NRC investments in public and private corporations were not reflected in the financial statements. In 2005-06, NRC recorded these investments at the lower of cost or fair value. The full value on the balance sheet reflects NRC's investment in publicly traded companies as our shares in privately held corporations are deemed to have no market value. Details of NRC's investment in public companies are as follows:

Company Name	Number of Shares	Amount Recorded in Financial Statement	Market Value at March 31, 2006
JDS Uniphase	171,334	\$409,488	\$827,543
PharmaGap Inc.	1,305,425	\$392,933	\$391,628
Chemaphor Inc.	1,260,305	\$252,061	\$346,584
ACE Aviation Holdings Inc.	33	\$743	\$1,123
Energy Ventures Inc.	200,000	\$1	
Lions Petroleum Inc.	1,050	\$1	\$810
Total		\$1,055,227	\$1,567,687

The increase in equity investments from 2005 to 2006 is attributable to the conversion of the shares held by NRC in the private firm Occell Inc. to publicly traded shares in Chemaphor Inc. due to an amalgamation.

# Subsequent event - Disposal of JDS Uniphase shares

On May 25, 2006, the Council completed a transaction whereby it disposed of all of it's JDS Uniphase Canada Ltd marketable securities; it sold 171,334 shares at their market value of \$3.2597 per share for a total of \$551 thousand (net of commission of \$7.4 thousand) resulting in a net gain of approximately \$142 thousand.

## Holmes Endowment Fund

The Holmes Endowment Fund is an investment bequeathed to NRC in July 1994. Up to two thirds of the endowment fund's yearly net income is used to finance the H.L. Holmes award on an annual basis. The award provides the opportunity to post-doctoral students to study at world famous graduate schools or research institutes under outstanding researchers.

In 2005-06, the Holmes Endowment Fund Investment was restated to reflect amortized cost of the bonds held in the fund. It had previously been carried at the fair market value of the investments.

## **Prepaid Expenses**

## Subscriptions

NRC changed the way it accounted for prepaid subscriptions in 2005-06. In prior years, 75% of the total amount paid for subscriptions was established as a prepaid as it was assumed that most subscriptions ran on a calendar year. In 2005-06, this methodology was modified to reflect the actual subscription purchase date and duration by category of subscription.

## Other Prepaids

As part of its objective to disseminate scientific knowledge, NRC manages scientific conferences. Historically, expenses paid in advance of the conference were expense as incurred. New in 2005-06 is the establishment of a prepaid for these expenses.

The other area where changes have been made is the establishment of a prepaid for payments in lieu of taxes (property taxes).

NRC establishes prepaid expenses for items that exceed a threshold of \$5 thousand.

# Inventory for Consumption

Physical inventory counts were done in 2005-06 on 7 stores out of 14 which represented the larger stores carrying over 70% of the value of NRC's inventory for consumption. A significant effort was made to identify stock that was obsolete or incorrectly valued, resulting in write downs of \$378 thousand. This write down was recognized as of March 31, 2005 as it was believed that the conditions that led to the write down existed at that time. An allowance for obsolescence was also created to reflect the value of stock that had not moved for 5 years. This was approximately 15% of the value on hand.

Inventory for consumption went down by an additional \$202 thousand over March 2005 levels due to the continued effort to reduce stock on hand.

### Capital Assets

## Buildings and Facilities

In 2005-06, renovations / additions were made to NRC buildings and facilities totaling \$24.4 million. Of this amount \$13.5 million was for the construction of a new laboratory on the campus of the University of British Columbia in Vancouver for NRC's Institute for Fuel Cell Innovation, \$2.9 million was for the Industrial Partnership Facility at NRC's Institute for Biodiagnostics in Winnipeg, \$2.4 million was for the animal housing facility on the Montreal Road campus, \$793 thousand was for the recladding of the exterior of one of the administration buildings (M-19) and \$570 thousand was for a hydro substation to support NRC's Institute for Aerospace Research Gas Turbine facility.

NRC had a number of scientific facilities that had never been recorded as an asset on the balance sheet. This was because it was the government's policy to expense assets when purchased. When this policy changed in 2001, NRC did not have reasonably reliable information on which to base a value for these older facilities and Public Works and Government Services (PWGSC) did not have a methodology for estimating this value. In order to comply with GAAP requirements in 2005-06, NRC engaged Public Works and Government Services to determine a value for these facilities. Based on the PWGSC information, facilities with an estimated historical cost of \$104.8 million, with corresponding accumulated depreciation of \$73.1 million, were added in our accounts. This addition was recognized as at March 31, 2005.

Corrections were made to the financial statements, as at March 31, 2005 to reclassify assets from machinery and equipment to facilities totaling \$5.4 million for the NRC's Canadian Neutron Beam Laboratory, and to record an asset under construction of \$6.7 million for a facility at NRC's Institute for Biodiagnostics that had been expensed as incurred instead of capitalized. Other adjustments were made to put buildings and facilities under construction into service totaling \$88.4 million and to reclassify fit up and a parking lot for NRC's National Institute for Nanotechnology to leasehold improvements from building (\$3.3 million). Lastly, a NRC building on the University of British Columbia campus with a cost of \$10.7 million was reclassified from a capital asset to a capital asset held for sale.

Machinery, equipment, furniture and Informatics equipment

Approximately \$44.0 million was expended on these items in 2005-06, net of trade-in allowance of \$537 thousand. The significant purchases were:

- A 3 Tesla Magnetic Resonance Imaging System for \$3.6 million for NRC's Institute for Biodiagnostics.
- Two transmission electron microscopes to fit up NRC's National Institute for Nanotechnology valued at \$2.7 and 1.0 million each.
- \$1.6 million in costs for software being developed in house for the information access and delivery service provided by NRC's Canadian Institute for Scientific and Technical Information.
- A mass spectrometer worth \$976 thousand for NRC's Institute for National Measurement Standards.
- An Imprio 100 System and an X ray Diffractometer costing \$959 thousand and \$628 thousand respectively for NRC's Institute for Microstructural Sciences.
- A high performance computational facility costing \$610 thousand for NRC's Institute for Aerospace Research.
- A friction stir welding machine valued at \$565 thousand for NRC's Industrial Materials Institute.

The balance of the expenditures was for machinery, equipment, furniture and informatics equipment costing less than \$500 thousand each.

In 2005-06 a physical verification was taken of NRC's assets. Particular care was taken to identify assets that no longer had a useful purpose, or that had been broken up into parts. As a result of this physical count, assets with a net book value of \$1.5 million (historical cost value of \$51.8 million) were removed from NRC's books. As these items were deemed obsolete at the beginning of 2005-06, this write off was recognized as of March 31, 2005.

Other assets with a historical cost of \$17.0 million and a net book value of \$636 thousand were disposed of in 2005-06 as part of ongoing operations.

Corrections were made to closing balances as at March 31, 2005 to reclassify software developed in house from asset under construction to in service and to adjust accumulated depreciation.

## Leasehold Improvements

\$5.4 million was expended in 2005-06 for NRC's National Institute for Nanotechnology (NINT) to fit up their premises in the leased building from the University of Alberta.

Reclassifications recognized in 2004-05 were made to reclassify a parking lot and fit up of the building for NINT to leasehold improvements from building (\$3.3 million) and expense (\$637 thousand).

## Leased Capital Asset

The capital lease amount is for a building and land on the campus of the University of Western Ontario, which NRC leases for \$1 per year. In previous years NRC did not recognize the value of this lease on its financial statements. In 2005-06, NRC recorded the lease as a capital lease valued at \$10 million which represents the market value of the building in 1997. NRC's asset balance as at March 31, 2005 was amended to reflect this change in accounting policy.

## Accounts Payable

Historically NRC accrued expenses for physical goods or services that had been received but not paid for, but did not accrue for items like payments in lieu of taxes (property taxes). Commencing in 2005-06, NRC began accruing for all material expenses and restated its March 31, 2005 accounts payable balance to reflect this.

The increase in accounts payable from March 31, 2005 is attributable to higher expenditures in 2005-06, as well as higher accruals for IRAP payments. IRAP accruals have increased due to more stringent requirements by NRC to have supporting documentation for claims before releasing payments.

# **Deferred Revenue**

# Specified Purpose Accounts

NRC undertakes collaborative work with clients for the mutual benefit of both parties. Funding provided by the collaborator is placed in a Specified Purpose Account (SPA) and used over the duration of the project. Amounts remaining in the SPA at year end are recorded as deferred revenue as it is expected that it will be used in the upcoming year on the project.

## Research Press

The Canadian Institute for Scientific and Technical Information publishes research journals which are available for purchase on a subscription basis. When NRC receives payment for the

subscription, it records the amount as deferred revenue and then recognizes the revenue each month as the journal is issued.

## Relocation of the Institute for Fuel Cell Research

NRC currently occupies a building on leased land on the campus of the University of British Columbia (UBC) in Vancouver. At the request of UBC, NRC agreed to construct a new building on the campus and relinquish the existing building and land lease for \$15.0 million. As NRC has not yet vacated the old building, the \$15.0 million received is being recorded as deferred revenue. It will be recognized when the old building is turned over to UBC.

The change in deferred revenue over 2004-05 is mostly related to \$10.1 million received from UBC in 2005-06.

# Conference and Seminar Registration

NRC conducts many conferences and seminars, which often require registration many months in advance of the conference date. Receipts from registration are recorded as deferred and recognized when the conference takes place.

## Contributions Related to Leased Capital Asset

The capital lease amount is for a building and land on the campus of the University of Western Ontario, which NRC leases for \$1 per year. An amount equal to the value of the leased capital asset was considered a non-monetary contribution and was established as deferred revenue. It is being recognized as revenue on the same basis as the amortization of the leased capital asset.

## **Employee Future Benefits**

In prior years this allowance was recorded by Treasury Board on behalf of departments. In 2005-06, NRC was required to record this liability on its own balance sheet in order to be compliant with GAAP and Treasury Board accounting policy. The amount recorded for March 31, 2005 was \$49.6 million. The amount recorded as at March 31, 2006 was \$55.3 million. The increase is due to a change in the rate from 21.79% of salary to 23.2% of salary. This change was a result of an actuarial review undertaken by Financial Management and Analysis section, Office of Comptroller General, Treasury Board Secretariat.

## **Environmental Liabilities**

An environmental liability was established for \$300 thousand for a contaminated site at Penticton, B.C. The site is a borrow pit used for construction projects that was subsequently used as a dumping site. The \$300 thousand is an estimated cost to remediate the site. In prior years, this liability was not recorded.

Governance

# **NRC Council Members**

As of 31 March 2006

Dr. Patricia Béretta Healthcare Scientist

Elmira, Ontario

Mr. Louis Brunel President

International Telecommunications Institute

Montréal, Quebec

**Dr. Pierre Coulombe**President (and Chair of Council)

National Research Council Canada

Dr. Delwyn Fredlund Geotechnical Engineer

Golder Associates Ltd. Saskatoon, Saskatchewan

Dr. Wayne Gulliver President

Newlab Clinical Research Inc.

St. John's, Newfoundland and Labrador

Mr. James Hatton Lawyer

Farris, Vaughan, Wills & Murphy LLP

Vancouver, British Columbia

**Dr. Joseph Hubert** Dean, Faculty of Arts and Sciences

Université de Montréal Montréal, Quebec

**Dr. Gilles Patry** <sup>3</sup> Rector, University of Ottawa

Ottawa, Ontario

**Dr. Alan Pelman** 1,3 Vice-President, Technology Canada

Weyerhaeuser Ltd.

Vancouver, British Columbia

**Dr. Louise Proulx** Vice-President, Product Development

Topigen Pharmaceuticals Inc.

Montréal, Quebec

**Dr. René Racine** 1 Professor Emeritus, Physics Department

Université de Montréal Montréal, Quebec Ms. Salma Rajwani Chief Information Officer

Acrodex Inc.

Edmonton, Alberta

Dr. Inge Russell<sup>2</sup> Yeast and fermentation scientist

London, Ontario

Dr. Katherine Schultz 1,2 Vice-President, Research & Development

University of Prince Edward Island Charlottetown, Prince Edward Island

Ms. Barbara Stanley President, BESCO Holdings 2002 Inc.

Rothesay, New Brunswick

Dr. Howard Tennant 1,3 President Emeritus

> University of Lethbridge Lethbridge, Alberta

Dr. Louis Visentin<sup>2</sup> President

> **Brandon University** Brandon, Manitoba

Mr. Jean-Claude Villiard <sup>1,3</sup> Special Advisor, Privy Council Office

Government of Canada

Ottawa, Ontario

<sup>1</sup> Member, Executive Committee 2 Member, Human Resources Committee

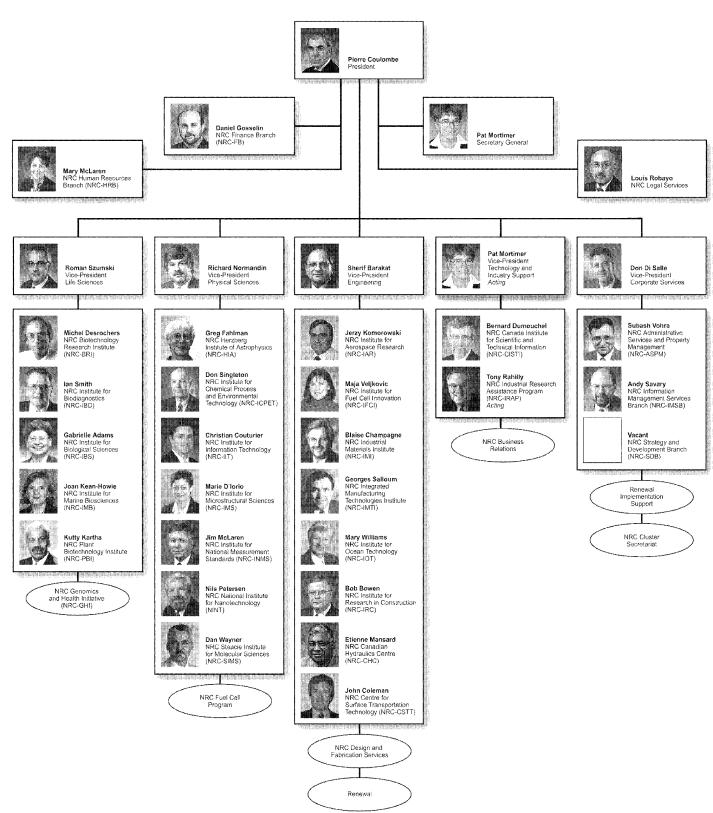
<sup>&</sup>lt;sup>3</sup> Member, Audit Committee

# **NRC Executive Officers**

As of 31 March 2006

Pierre Coulombe	Patricia Mortimer
President	Secretary General
613-993-2024	613-993-4752
Roman Szumski	Richard Normandin
Vice-President	Vice-President
Life Sciences	Physical Sciences
613-993-9244	613-993-4449
Sherif Barakat Vice-President Engineering 613-949-5955	Patricia Mortimer Vice-President (Acting) Technology and Industry Support 613-998-3664
Don Di Salle	Daniel Gosselin
Vice-President,	Chief Financial Officer
Corporate Services	Finance Branch
613-993-0361	613-990-7471
Mary McLaren Director General Human Resources 613-993-9391	

# ORGANIZATIONAL CHART



# NRC Research Institutes, Programs and Technology Centres

# NRC Research Institutes, Programs and Technology Centres

## NRC Biotechnology Research Institute (NRC-BRI)

Montréal 514-496-6100

# NRC Canada Institute for Scientific and Technical Information (NRC-CISTI)

Canada and U.S. Toll Free 1-800-668-1222 Outside North America 613-998-8544

# NRC Canadian Hydraulics Centre (NRC-CHC)

Ottawa 613-993-9381

# NRC Centre for Surface Transportation Technology (NRC-CSTT)

Ottawa 613-998-9639

## NRC Herzberg Institute of Astrophysics (NRC-HIA)

Victoria 250-363-0001 Penticton 250-493-2277

## **NRC Industrial Materials Institute (NRC-IMI)**

Boucherville 450-641-5000 Saguenay 418-545-5545

## NRC Industrial Research Assistance Program (NRC-IRAP)

Toll Free 1-877-994-4727

# NRC Institute for Aerospace Research (NRC-IAR)

Ottawa 613-991-5738 Montréal 514-283-9408

## NRC Institute for Biodiagnostics (NRC-IBD)

Winnipeg 204-983-7692 Calgary 403-221-3221 Halifax 902-473-1850

# NRC Institute for Biological Sciences (NRC-IBS)

Ottawa 613-993-5812

# NRC Institute for Chemical Process and Environmental Technology (NRC-ICPET)

Ottawa 613-993-6570

# NRC Institute for Fuel Cell Innovation (NRC-IFCI)

Vancouver 604-221-3000

## NRC Institute for Information Technology (NRC-IIT)

Fredericton 506-444-0544 Gatineau 819-934-2602 Moncton 506-861-0950 Ottawa 613-993-3320 Saint John 506-635-0622

## NRC Institute for Marine Biosciences (NRC-IMB)

Halifax 902-426-6095

Charlottetown 902-566-7465 — NRC Institute for Nutrisciences and Health (NRC-INH)

## NRC Institute for Microstructural Sciences (NRC-IMS)

Ottawa 613-993-4583

# NRC Institute for National Measurement Standards (NRC-INMS)

Ottawa 613-993-7666

# NRC Institute for Ocean Technology (NRC-IOT)

St. John's 709-772-4939, 709-772-6001

# NRC Institute for Research in Construction (NRC-IRC)

Ottawa 613-993-2607 Regina 306-780-3208

## NRC Integrated Manufacturing Technologies Institute (NRC-IMTI)

London 519-430-7079

## NRC Plant Biotechnology Institute (NRC-PBI)

Saskatoon 306-975-5571

# NRC Steacie Institute for Molecular Sciences (NRC-SIMS)

Ottawa 613-991-5419

Chalk River 613-584-3311, ext. 6274

# NRC National Institute for Nanotechnology (NINT)

Edmonton 780-641-1600

### **National Research Council Canada**

General Information Toll free 1-877-672-2672 TTY 613-949-3042

www.nrc-cnrc.gc.ca info@nrc-cnrc.gc.ca