

**Joint Results-based Management and Accountability Framework
and
Risk-Based Audit Framework
for the
Grants Program for Business-led Networks of Centres of Excellence
(BL-NCE Program)**

December 2008

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1 Introduction

1.1 Background

The BL-NCE Program is a federal mechanism to support new business-led research networks in order to bring together government, private and academic experts from around the world to support applied research in environment, energy, information and communication technologies (ICT), and health priorities, and management, business and finance through a competitive, national process.

The BL-NCE Program is overseen by a tri-agency NCE Steering Committee made up of the Deputy Minister of Industry (or delegate), the Presidents of the three federal granting agencies and the President of the Canadian Foundation for Innovation (as an observer)

Day-to-day administration of the BL-NCE Program is provided by the Networks of Centres of Excellence Secretariat (The Secretariat).

1.2 Level of Integration

This integrated Results-based Management and Accountability Framework (RMAF) and Risk-Based Audit Framework (RBAF) provides results-based management and accountability information for all the BL-NCE program's activities. It also provides an assessment of risk and mitigation strategies for managing key risk areas. The RMAF and RBAF are highly integrated. The results logic and risk assessment were coordinated to enable results and risk to be managed as one process. For example, results measurement and risk management strategies have been synchronized to draw on, where possible, common measures and review processes.

The sections included in this document are as follows:

- **Section 2 – Program Profile.** This section presents a detailed description of the program objectives and rationale. It also outlines the resources allocated to the BL-NCE program and the groups that it targets through its design.
- **Section 3 – Expected Results.** This section presents a description of the expected results and delivery approach for the BL-NCE program's activities.
- **Section 4 – Risk Assessment and Management Summary.** This section presents a description of the risk assessment and management strategies in place for the BL-NCE program.
- **Section 5 – Monitoring, Evaluation and Auditing.** This section contains detailed information on the indicators that will be used to measure the success of the BL-NCE program's activities and how they can be measured and reported upon on an ongoing basis. It presents a strategy for evaluating program activities' relevance, success and cost-effectiveness and a risk management plan. A discussion of internal audit is also presented.

It should be noted that this RMAF/RBAF is intended to be a living document and will be revisited on an ongoing basis and revised as required to reflect, for example, changes to the program, improvements in indicators, changes in performance measurement activities, etc.

2 Program Profile

2.1 Context

Science and technology (S&T) play a key role helping Canadians to address pressing societal challenges. S&T also supports business innovation, enabling economies to improve their long-term productivity and competitiveness, and in so doing supporting a higher standard of living and quality of life. However, Canadian private sector investment in S&T and new technology, and demand for highly skilled workers is low compared to other OECD countries. This is contributing to weak productivity growth in relation to the United States, Canada's most important trading partner.

Mobilizing Science and Technology to Canada's Advantage, the Government of Canada's S&T Strategy, sets out a multi-year policy framework to improve Canada's long-term competitiveness and quality of life by fostering three inter-related S&T-based advantages. The Strategy encourages an Entrepreneurial Advantage to strengthen private-sector commitment to R&D and innovation vital to productivity and competitiveness, a Knowledge Advantage to ensure Canadian universities and colleges sustain their world-class research excellence, and a People Advantage so that Canada has access to the highly-skilled researchers and innovators it needs.

Budget 2007 announced a broad range of early actions in support of the S&T Strategy, including three new initiatives to leverage Canada's strong public sector research base to the benefit of business research and innovation. These include Centres of Excellence in Commercialization and Research (CECR), Business-led Networks of Centres of Excellence (BL-NCE), and an Industrial R&D Internship program. All three programs are intended to increase private sector investments in research in Canada, support the training of skilled researchers, and connect the resulting ideas and talent to businesses seeking to bring innovations to market. To ensure that the CECR and BL-NCE programs truly meet the needs of businesses, the NCE program will establish a Private Sector Advisory Board (PSAB).

The new BL-NCE program's goal is to fund large-scale collaborative networks to support private sector innovation in order to deliver potential economic, social and-or environmental benefits to Canadians and to promote an *Entrepreneurial Advantage*.

As outlined in *Mobilizing S&T to Canada's Advantage*, greater benefit for private sector competitiveness would arise from a new program stream, in which business-driven NCEs would rely on the private sector to identify priorities and lead R&D networks. The proposed *Business-led Networks of Centres of Excellence (BL-NCE)* program would generate even greater commercial outcomes.

The BL-NCEs will establish up to five new networks in strategic research areas holding out long-term competitive advantage to consortia of Canadian firms, supported by networks of

academics and government researchers. The BL-NCEs will differ from existing NCEs in that they will be for a shorter term, business-led, and focused on business needs.

2.2 Goal and Objectives of the BL-NCE Program

The goal of the BL-NCE program is to fund large-scale collaborative networks to support private sector innovation in five priority areas:

- ❑ Environmental science and technologies;
- ❑ Natural resources and energy;
- ❑ Health and related life sciences and technologies;
- ❑ Information and communications technologies; and
- ❑ Management, business or finance.

These objectives are closely linked to the strategic outcomes identified in the Program Activity Architecture (PAA) of all three granting agencies. Each agency has an outcome related to the training and support of researchers, and an outcome related to the transfer of knowledge generated through research activities.

2.3 Key Stakeholders and Beneficiaries

The main deliverers of the program include the three granting agencies: the Natural Sciences and Engineering Research Council (NSERC), the Canadian Institutes of Health Research (CIHR) and the Social Sciences and Humanities Research Council (SSHRC) as well as Industry Canada. Public and private sector partners and academic researchers are significant players to ensure achievement of the results.

2.3.1 Eligible recipients

The recipient organizations eligible to receive BL-NCE grants funds are:

- ❑ Private sector consortium that comprises the administrative centre of a BL-network; and
- ❑ BL-Network members and associated investigators that will enable the Networks to deliver on the goals and objectives of the BL-NCE program. Members can be Canadian universities, private sector enterprises with substantial R&D operations in Canada or potential to benefit from R&D, and Canadian not-for-profit organizations.

2.3.2 Other stakeholders

Other stakeholders are organizations from the private, public and not-for-profit sectors within the areas covered by the networks are important stakeholders benefiting from the research results arising from the networks. In many instances, they will be closely involved in commercializing new products and services. The Canadian public can also be considered as a

stakeholder since the BL-NCE program aims to support private sector innovation in order to deliver economic, health, social and environmental benefits to Canadians.

2.4 Resources

2.4.1 Program Resources

The funding envelope for the BL-NCE program over five years beginning in 2007-2008 is \$46 million (M). Of this amount, \$3.9 M is allocated to NSERC operating expenditures (including evaluation and internal audit functions as described below, as well as accommodation premiums) and supports three full-time equivalents (FTE). The remainder is earmarked for Grants to BL-NCEs, from the three Granting Agencies.

2.4.2 Expenditures for Monitoring, Evaluation and Auditing

The Secretariat uses NSERC's audit and evaluation functions. NSERC receives annual appropriations for the programs administered by the NCE Secretariat. The costs incurred in developing and implementing the accountability/evaluation framework will be found within the operating budget. This program is subject to internal audit by NSERC's Internal Audit function, which has a budget of \$223,740 for 2007-2008 and will increase to approximately \$350,000 for future years. A specific evaluation budget of \$250,000 has been set aside for the BL-NCE program.

3 Expected Results

The BL-NCE program goal is accomplished by investing in national research networks that yield the following benefits:

Research-Related Benefits

- ❑ Increased private sector investment in R&D and advanced technologies;
- ❑ high quality post-graduate and post-doctoral training in innovative research;
- ❑ Strengthened public-private sector collaboration, including links between young researchers and firms, to address significant research challenges that meet business needs, and
- ❑ Increased industry R&D capacity, including among SMEs, and receptivity to the results of R&D

Commercialization-Related Benefits

- ❑ A clear path to market or business application for the proposed research;
- ❑ Commercialization benefits that position Canadian firms in high value segments of production chains;
- ❑ Created, grown and retained companies in Canada that are able to capture new markets with new innovations;
- ❑ Accelerated commercialization of leading edge technologies, goods, services in priority areas where Canada can significantly advance its competitive advantage, and
- ❑ Strengthened domestic collaboration, ensuring that benefits spill over to a wide array of firms, sectors and regions of the country.

These results are graphically depicted in the logic model in a subsequent section of this document. Many of these results are expected to occur over the course of the award, although the broader outcomes can occur years after the end of the funding period due to their complexity. The longer the timeframe of an expected result, the more external mitigating factors may influence its attainment. These mitigating factors include the state of the Canadian economy, for example.

3.1 Key Risk Areas

Key Risk Areas, described below, provide a macro view of the main areas that challenge the achievement of Business-Led planned results. **Two** key Risk Areas were identified: *Competing Interests* and *Financial Accountability*. These summarize three specific risks that will require careful management. The specific risks were identified and assessed during a risk assessment exercise and are presented in Section 4.2. The Key Risks directly relevant to BL-NCE's program delivery are mapped onto the logic model (Figure 3.1). It should be noted that as with its ability

to influence results, the NCE Secretariat's control and influence over risks also diminishes the farther the source of the risk is removed from the Secretariat direct activities. To gain efficiency and effectiveness, management of results and risks are integrated.

Competing Interests

The very design of the Business-Led program establishes a situation where the private sector members of the consortia which run the network may already be competitors. Furthermore, funding by private sector members of the consortia may be in greater and lesser amounts which may lead to circumstances where their inherent competing interests may be heightened by expectations of influence proportional to contribution levels. As a result, the allocation of funding or exploitation of intellectual property may not be supported by everyone or well aligned with objectives. These concerns could potentially result in reluctance to participate by some parties and the collaborative model being less effective than anticipated.

Financial Accountability

Some of the consortia that make proposals to become a BL-NCE may not have existed previously as an organizational group. As such, there may be a need to establish appropriate accounting and financial accountability processes, rules and governance starting with a fairly clean slate. While there are many existing guides and templates to build on, it may take a fair amount of time for the consortia to become appropriately mature in dealing with granting agency financial rules and requirements. This situation is compounded by internal challenges (including tight timelines, new reporting structures, and a lack of resources to include these consortia in the regular tri council monitoring cycle) which may limit the programs' ability to identify variances on a timely basis. These concerns may lead to financial loss or other events that undermine the reputation of the program.

3.2 Logic Model

A logic model identifies the linkages between the activities of a program and the achievement of its outcomes. It outlines the set of activities that make up the program and the sequence of outcomes that are expected to flow from these activities. As such, the logic model serves as a "roadmap", showing the chain of results connecting activities to the ultimate outcomes, and thus, identifies the steps that will demonstrate progress towards the BL-NCE's achievements. Four levels of performance are delineated in the logic model presented in Figure 3.1: activities and outputs, immediate outcomes, intermediate outcomes and ultimate outcomes.

Activities

Selection of networks

The Secretariat runs periodic national competitive processes through which the Steering Committee selects successful networks on the advice of international peer review and a Private Sector Advisory Board (PSAB).

Program management

The Secretariat is responsible for the day-to-day management of the BL-NCE program. The Secretariat receives administrative support from NSERC.

Monitoring and evaluation

The monitoring of awards is an ongoing function of the Secretariat that consists of ensuring that BL-NCE funds are used effectively to attain the expected results. These monitoring activities are linked to ongoing performance measurement and the data collected in this context can also be used for the purpose of periodic evaluations.

In order to rationalize the various reporting requirements of the program, the program's Results-based Management and Accountability Framework (RMAF) incorporates existing peer review and program monitoring processes. The major tools used in this context are annual progress reports and summary reports as well as annual corporate reports provided by the networks. To facilitate consistency and comparability of information and data, networks will use pre-set templates and models to prepare these tables and reports.

The Secretariat will compile, and analyze statistics annually and report to the NCE Steering Committee on various trends and confirm if the BL-NCE Program objectives are met. The NCE Steering Committee may then make recommendations to improve or adjust the program if necessary. Ad-hoc reviews and a summative evaluation will also be used to monitor and evaluate the program performance.

Outputs

Funded Networks

As a result of the peer-reviewed competition, new networks are selected and funded. The PSAB recommends the annual grant amounts to be allocated to the networks funded, and the Steering Committee makes the final decision on the funding. The Secretariat informs the applicants of the competition results.

Agreements with networks

Prior to the release of the first instalment of the award to the network, a Funding Agreement that outlines the terms and conditions for funding under the BL-NCE program, as well as the governance structure of the network must be signed by the Granting Agencies and the consortia and the Network's designated representatives.

Release of the first instalment of the award is also conditional on the signing of a Network Agreement by Network's members that receive BL-NCE funds. This agreement sets out the operating rules of the network and outlines the rights and obligations of its participating organizations and associated investigators.

Templates of Funding and Network Agreements developed by the Secretariat will be used by the networks.

Advice and direction to networks

Networks receive advice and direction from the Secretariat on various aspects related to the networks' development and ongoing activities and termination. They also receive advice on requirements and procedures for negotiation of internal Agreements (MOUs, affiliate agreements).

Reports on awards monitoring, performance reviews and evaluations

Networks provide annual progress reports and summary reports as well as annual corporative reports. Progress reports are also provided annually and a final report will be provided at the end of the award period. These reports constitute an important information and data input into the performance-based management system.

Immediate Outcomes

Immediate outcomes occur as a result of the activities and outputs produced by BL-NCE. These outcomes are controlled by the target population, and as such, can only be influenced by the Secretariat. Immediate outcomes are expected to occur during the term of the grant. The networks are expected to address significant research challenges that meet business needs and create a clear path to market in order to accelerate the commercialization of leading-edge technologies. In addition, the research should be carried out in a way that provides high quality graduate and postdoctoral training in innovative applied research and strengthens links between researchers and private sector partners.

Intermediate Outcomes

Intermediate outcomes are external consequences that flow from the immediate outcomes. As a result, they are further removed from the influence of the Secretariat and subject to a variety of mitigating factors. While unique to each Network, outcomes are expected to contribute to the achievement of the Program's intermediate outcomes, which represent key steps in the result chain toward the achievement of the program's ultimate outcomes. Intermediate outcomes are expected to be achieved after the Program's four-year funding period. Intermediate outcomes include the following: strengthened private public-sector collaboration; spill-over of benefits to a wide array of firms, sectors and regions of the country; increased private sector R&D capacity (including among SMEs) and receptivity to the results of R&D; and Canadian firms positioned in high-value segments of the production chains.

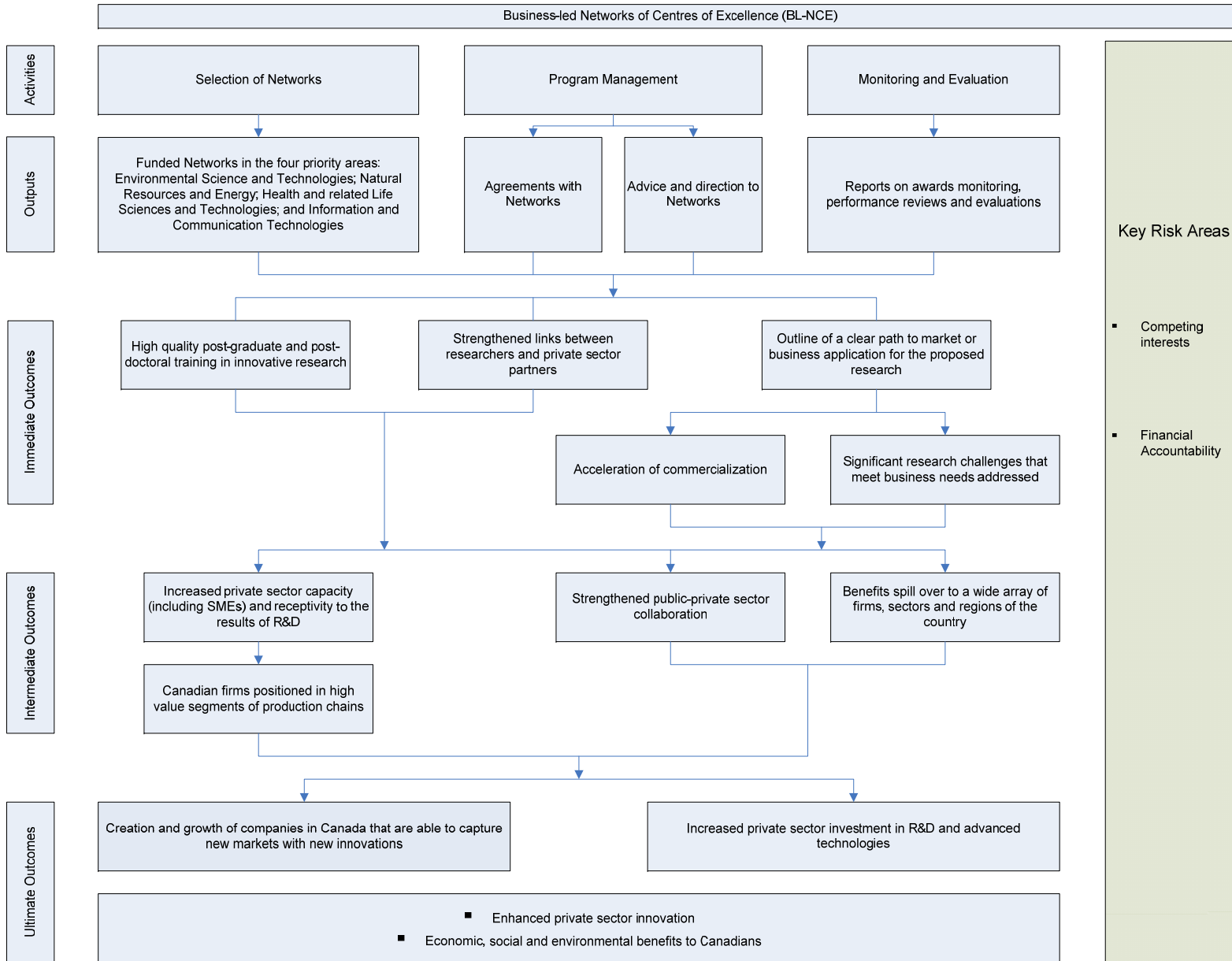
Ultimate Outcomes

The ultimate outcomes are the external consequences that the intermediate outcomes contribute to and reflect the rationale for the program. They represent a long-term vision towards which the program contributes. As such, program attribution of ultimate outcomes are usually difficult to measure, because of their long-term nature and as other mitigating factors often influence their attainment.

It is expected that strengthening public-private sector collaborations; increasing industry's capacity and receptivity to the results of R&D and positioning firms in high value segments of

production chains will contribute to the creation and growth of companies in Canada that are able to capture new markets with new innovations, and increase private sector investment in R&D and advanced technologies. This, it is anticipated, will ultimately result in increased private sector innovation as well as economic, social and environmental benefits to Canadians.

Figure 3.1: BL-NCE Logic Model



3.3 Accountabilities

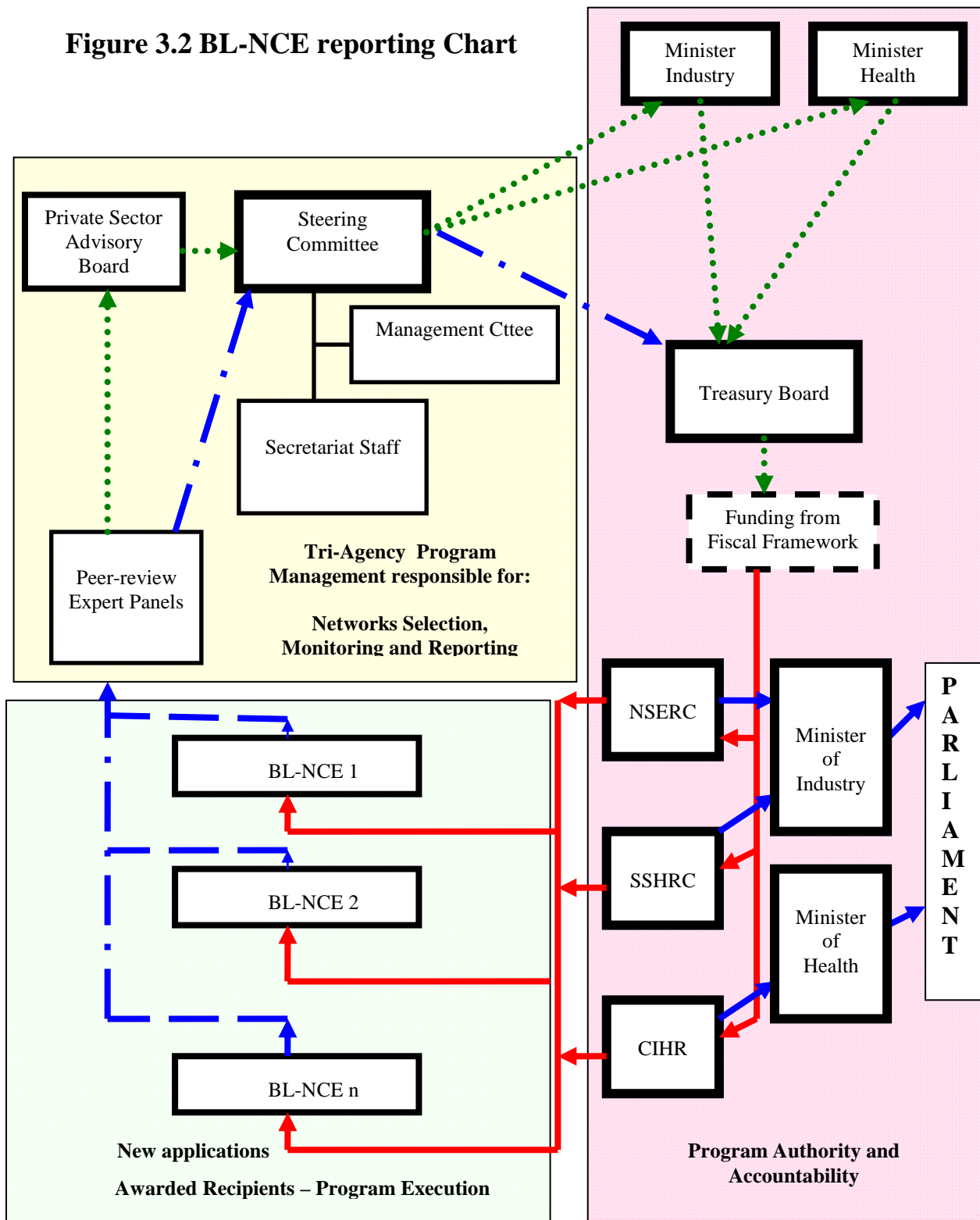
Consistent with the S&T Strategy the BL-NCE program fulfils the government's commitment to take a multidisciplinary and integrated approach to program delivery. The BL-NCE program is a federal program administered jointly by the Natural Sciences and Engineering Research Council, the Canadian Institutes of Health Research, and the Social Sciences and Humanities Research Council in partnership with Industry Canada.

3.3.1 Governance Structure

The diagram on the following page summarizes the overall governance structure of the BL-NCE programs as follows:

1. Program Management, including project selection, monitoring and activity/impact reporting carried out by the tri-council NCE Secretariat consisting of the following:
 - a. Steering Committee made up of the three agency presidents (NSERC, SSHRC and CIHR), Deputy Minister of Industry Canada (or his representative) and President of CFI (Observer). Chair is President of NSERC
 - b. PSAB appointed by Steering and consisting of between 6 and 10 prominent members from various key economic sectors
 - c. Secretariat Staff to support all the administration of the program
 - d. Various Peer Review Expert Panels assembled on an ad-hoc basis to review project applications
 - e. Program performance will be measured annually through generic indicators and will be evaluated regularly through a joint Tri-agency Evaluation Steering Committee.
2. Program Authority and Accountability is achieved through the existing Granting Agencies authority and accountability structure as follows:
 - a. Through Expert panel and PSAB reviews, the Steering Committee recommends projects for funding. These recommendations are forwarded to Ministers of Industry and Health for joint submission to the Treasury Board. Final Decision by TB appropriates funding from the fiscal framework to individual granting agencies for the recommended projects
 - b. Annually, each granting agency reports to Parliament on the funds allocated to the various projects
 - c. Annually data collected by the NCE Secretariat on the performance and impacts of these projects is reported to the NCE Steering.
3. Network's Program Execution is the responsibility of award Recipients, that must meet strict eligibility criteria, including being incorporated with an independent Board of Directors.
 - a. Each BL-NCE is assigned a responsible Secretariat Staff who is observer on the Board and the various key committees which the Board may establish
 - b. Annually each Network reports on its performance and impact against the program criteria.

Figure 3.2 BL-NCE reporting Chart



3.3.2 Roles and Responsibilities

The main responsibilities of BL-NCE Secretariat staff include program development and the management of the peer review process used to award grants. This involves providing advice to applicants, promoting the BL-NCE program through visits and other presentations, and monitoring the awards. Program monitoring and financial monitoring of awards are described in detail in section 5.1 Performance and Risk Monitoring Plan.

4 Risk Assessment and Management Summary

Through systematic risk identification, assessment and development of response procedures, program management and officers gained an explicit and common understanding of the key risks faced by the BL-NCE program. This analysis has established the main operational risk mitigation measures and controls that will be integrated into program management practices to ensure a cost-effective balance between risk levels, investments in response measures and stakeholders' interests.

Preparation Steps

Preparatory activities included:

- ❑ selection of the parties that should be involved - program managers from the BL-NCE and related programs, as well as representatives from corporate management functions in the Granting Agencies, and external risk management experts;
- ❑ establishment of a "time horizon" which reflects the multi-year funding timeframe;
- ❑ review and refinement of a Risk Matrix Tool to set criteria for estimating the levels of impact and likelihood of risks - see Appendix A;
- ❑ consideration of a Sources of Risk Template, as a prompt for risk identification; and
- ❑ agreement on the definition of risk that would be used - "combination of the likelihood of an event and its impact" - International Standard (ISO).

4.1 Risk Management Process

The following risk assessment methodology was followed:

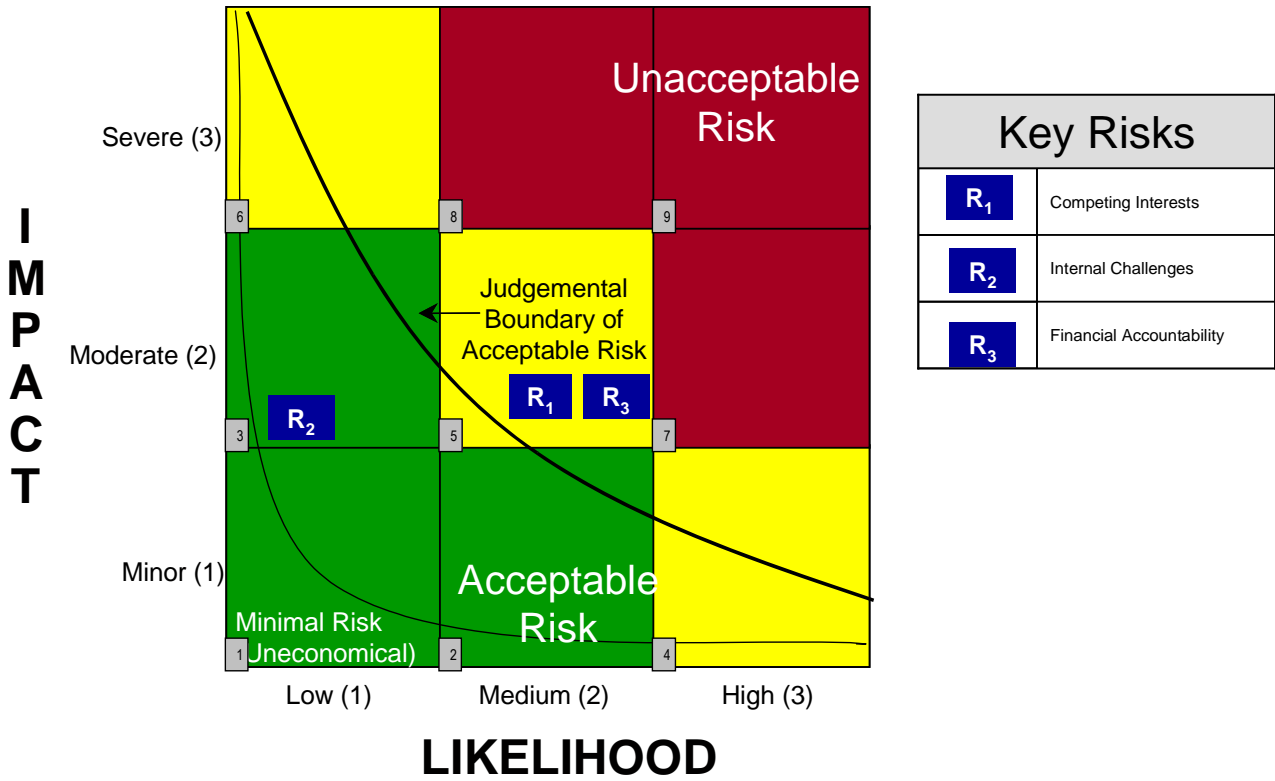
1. Understand Objectives
 - ❑ Articulation of a summary objective based on the outcomes established in the Logic Model.
2. Risk Area Identification
 - ❑ Brainstorming of all possible Risk Events (REs) (i.e., events, hazards, issues and circumstances that could impair the articulated objective); and
 - ❑ a preliminary analysis of the risk level, (high/medium/low) to determine the most significant/sensitive risks that would require further analysis.

3. Risk Assessment
 - ❑ Identification of concerns and impacts related to the key Risk Events;
 - ❑ determination of existing mitigation measures and their efficacy; and
 - ❑ estimation of the residual risk which reflects the level of likelihood and impact of concerns materializing, given the information on existing measures and the criteria set out in the Risk Matrix.
4. Risk Response
 - ❑ Development of incremental strategies in cases where the estimated level of residual risk and the expected actions set out in the Risk Tolerance Model attached in Appendix B.
5. Preparation of Risk Summaries
 - ❑ Summary of areas of concern related to risks as well as their existing and incremental risk management strategies.

4.2 Overall Risk Assessment

Nine risk events were identified. These are events or circumstances that can impede the achievement of the program's objectives (refer to the preliminary risk assessment, Appendix A). Each risk area was subject to a Preliminary Risk Assessment and three of the highest rated risk events were selected for a detailed risk analysis. The results of the detailed analysis of key risks, likelihood and impact, are presented in the Risk Scorecard (**Figure 4.1**). The worksheets for the detailed analysis are presented in **Appendix C**.

Figure 4.1 BL-NCE Risk Scorecard®



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5 Monitoring and Evaluation Plan

Ongoing performance measurement and risk monitoring refers to the systematic collection of information for monitoring how a program is performing or what changes in the level of a risk at any given point in time. It can be used to report on the level of attainment of planned results and planned levels of risk and on performance/risk trends over time. The key focus of the performance and risk measurement strategy is to establish what indicators will be used to measure progress towards outputs, outcomes or levels of risk, and how, when and by whom information on these indicators will be collected.

The implementation of performance and risk indicators will require careful planning including an analysis of the resources, skills, roles and responsibilities and priority for indicators relative to ongoing policy and program implementation demands.

Risk may occur if the required careful planning is not done on a timely basis, in sufficient detail or appropriately addressed. This risk will be managed through regular monitoring by the NCE management.

5.1 Program Monitoring

The monitoring of awards is an ongoing function of the NCE Secretariat to ensure that BL-NCE funds are used effectively to attain the expected results. These monitoring activities are linked to ongoing performance measures, also the data collected feed into evaluations. The indicators are presented in the Performance and Risk Measurement Strategy Table in section 5.1.3.

Grants recipients will be asked to provide annual progress reports to the Steering Committee. These reports will indicate major achievements of the networks over the last year, strategies used to achieve their goal(s), and any course corrections, or deviations from the original objectives. In addition, the progress reports will include statistical tables, summary reports, and administration reports such as conflict of interest and an environmental review report as stipulated by the NCE Secretariat.

The Secretariat compiles, and analyses these performance data on a yearly basis and reports to the NCE Steering Committee on various trends and confirms if the BL-NCE Program objectives are met. An evaluation will also be used to monitor and evaluate program performance at the end of the fourth year. Evaluations will make use of ongoing monitoring data as well as data collected during the evaluation.

Robust controls are built into Secretariat's systems and processes. They include clear assignments of responsibility and authority for the approval of awards, budget controls embedded in the BL-NCE awards management database, and multi-faceted monitoring of ongoing awards.

Reporting

The information collected for monitoring is reported on through various mechanisms. The table below (Figure 5.1) provides further details.

Table 5.1: Reporting

Type of Report	Purpose	Contents	Frequency of Use/ Timing	Responsibility
Competition Results	Awards management - to report on the demand and take-up of the BL-NCE program.	Summaries of number of applications, success rates and funding rates.	As required	NCE Secretariat
Summary Reports	Awards management - to ensure grants are used toward Eligible Expenses.	Statistical reports, annual progress reports, and final report.	Annually	NCE Secretariat

5.2 Performance and Risk Monitoring

Ongoing performance measurement is the regular collection of information for monitoring how a program is doing at any given time. It can be used to report on the level of attainment of planned results and on performance trends over time.

The following performance measurement strategy lists the planned outputs and outcomes of the BL-NCE program as well as the performance indicators that need to be collected in order to monitor the progress of the program toward the achievement of its outcomes as described in the logic model.

The table also summarizes the ongoing risk measurement strategy for the BL-NCE program. It focuses on the key risks identified on the Risk Scorecard that were at the high and medium levels. The measurement strategy for key risks is provided at the end of the strategy table. Where changes in the level of a risk would be easily identifiable, risk indicators are not included. Ongoing monitoring of the level of risk is very important because risk levels may quickly increase due to environmental factors or significant risk reduction/stabilization expected from the implementation of Incremental Risk Mitigation Measures. Risk indicators provide cost effective proxy information about the level of risk between formal assessments. Risk details are presented in italics. In some cases, performance indicators are in italics because they have a dual nature of providing performance and risk information. Dual indicators are a key efficiency feature of an integrated RMAF-RBAF.

Table 5.2 Performance Measurement Strategy for the BL-NCE Program

Key Performance Area / Key Risk	Indicators	Data Source / Data Collection method	Responsibility for Collection	Timing / Frequency of measurement
Outputs				
Funded networks in the S&T priority areas	<ul style="list-style-type: none"> Number of funded networks and Amounts allocated to the funded networks in each priority area 	<ul style="list-style-type: none"> PSAB report/Steering Committee recommendations 	NCE Secretariat	Year 1
Agreements with networks	<ul style="list-style-type: none"> Nature and number of agreements Opinions of program participants 	<ul style="list-style-type: none"> Funding and network agreements 	NCE Secretariat	Year 1

Key Performance Area / Key Risk	Indicators	Data Source / Data Collection method	Responsibility for Collection	Timing / Frequency of measurement
Advice and direction to networks	<ul style="list-style-type: none"> Opinions of key informants (Network Management) 	<ul style="list-style-type: none"> Key informants interviews 	Program Evaluation	Year 4
Reports on awards monitoring, performance reviews and evaluations	<ul style="list-style-type: none"> Number of reports 	<ul style="list-style-type: none"> Administrative data 	NCE Secretariat	Annually
Immediate Outcomes				
High quality post-graduate and post-doctoral training in innovative research	<ul style="list-style-type: none"> Number of trainees (graduate students, post-doctorate fellows and other HQP) working on BL-NCE projects – by degree and discipline 	<ul style="list-style-type: none"> Summary reports Annual progress reports Final reports 	NCE Secretariat	Annually Annually Year 4 Year 4
	<ul style="list-style-type: none"> Number of trainees receiving salary support for BL-NCE research 			
	<ul style="list-style-type: none"> Number of specialized training opportunities created by Networks (Strategic plans for HQP) 			
	<ul style="list-style-type: none"> Number of publications and conferences involving trainees 			
Links between researchers and firms	<ul style="list-style-type: none"> Number of invitations as guest speakers conferences and congresses with business- user sector Nature of links between researchers and partners 	<ul style="list-style-type: none"> Application (PSAB Panels reports) Annual progress reports 	NCE Secretariat	Annually
Address significant research challenges that meet business needs	<ul style="list-style-type: none"> Evidence of participation of industry in decision-making processes for research goals (e.g., private sector representation among members of research planning committees and research projects) Number and nature of network milestones and objectives achieved 	<ul style="list-style-type: none"> Application Annual progress reports Final reports 	NCE Secretariat	Annually Year 4
Outline of a clear path to market or business application for the proposed research	<ul style="list-style-type: none"> Number of business applications / proposals identified 	<ul style="list-style-type: none"> Application (PSAB Panels reports) Annual progress reports 	NCE Secretariat	Annually
<ul style="list-style-type: none"> Acceleration of commercialization 	<ul style="list-style-type: none"> Evidence of research results leading to commercialization Number of products, goods or services developed/improved in each priority area 	<ul style="list-style-type: none"> Summary reports Annual progress report 	NCE Secretariat	Annually
Intermediate Outcomes				
Increased private sector capacity (including among SMEs) and receptivity to the results of R&D	<ul style="list-style-type: none"> Changes in number (and type) of employees dedicated to R&D Changes in R&D expenditures Opinion of partners regarding changes in capacity and receptivity in their organizations 	<ul style="list-style-type: none"> Survey of partners Case studies 	NCE Secretariat Program Evaluation	Year 2 Year 8
Canadian firms positioned in high value segments of production chains	<ul style="list-style-type: none"> Number of partners positioned in high value segments of production chain 	<ul style="list-style-type: none"> Annual progress reports Final report Survey of partners Case studies 	NCE Secretariat Program evaluation	Annually Year 4 Year 8

Key Performance Area / Key Risk	Indicators	Data Source / Data Collection method	Responsibility for Collection	Timing / Frequency of measurement
Strengthened public-private sector collaboration	<ul style="list-style-type: none"> Changes in inventory of industry partners Number of university-industry links within the network Opinion of stakeholders 	<ul style="list-style-type: none"> Annual progress reports Case studies Survey of partners Survey of researchers 	NCE Secretariat	Annually
			Program Evaluation	Year 8
Benefits spill over to a wide array of firms, sectors and regions of the country	<ul style="list-style-type: none"> Number and size of firms, sectors, provinces and regions using results of the network research Number and nature of policies and practices of the user sector have been influenced by research findings 	<ul style="list-style-type: none"> Annual progress reports Final report Survey of partners 	NCE Secretariat	Annually
			Program Evaluation	Year 4 Year 8
	Program Evaluation	Year 8		
Ultimate Outcomes				
Increased private sector investment in R&D and advanced technologies	<ul style="list-style-type: none"> Trends in R&D investment of partners 	<ul style="list-style-type: none"> Survey of Partners 	Secretariat Program Evaluation	Year 2 Year 8 Year 12
	<ul style="list-style-type: none"> Trends in R&D investment in Canada 	<ul style="list-style-type: none"> Secondary Data analysis 	Program Evaluation	Year 12
Creation and growth of companies in Canada that are able to capture new markets with new innovations	<ul style="list-style-type: none"> Number of companies created/ experienced growth using network's results/innovations 	<ul style="list-style-type: none"> Summary reports annual progress reports Final report Survey of partners 	NCE Secretariat	Annually
	<ul style="list-style-type: none"> Number of jobs created within consortia (all partners) 	<ul style="list-style-type: none"> Summary reports Final report Survey of partners Case studies 	NCE Secretariat	Year 4 Year 12
Enhanced private sector innovation	<ul style="list-style-type: none"> Evidence of impacts of network innovations on existing industries 	<ul style="list-style-type: none"> Case studies 	Program Evaluation	Year 8 Year 12
	<ul style="list-style-type: none"> Evidence of new processes and practices, that enhance private sector innovation 	<ul style="list-style-type: none"> Case studies 	Program Evaluation	Year 8 Year 12
Economic, social and environmental benefits to Canadians	<ul style="list-style-type: none"> Evidence demonstrating the impacts of networks on national, international norms, regulations and policies 	<ul style="list-style-type: none"> Case studies 	Program Evaluation	Year 8 Year 12
	<ul style="list-style-type: none"> Evidence of economic impacts 	<ul style="list-style-type: none"> Economic impact study 	Program Evaluation	Year 8
	<ul style="list-style-type: none"> Evidence demonstrating the networks' contributions to the health and social well-being of Canadians 	<ul style="list-style-type: none"> Case studies 	Program Evaluation	Year 12

Key Performance Area / Key Risk	Indicators	Data Source / Data Collection method	Responsibility for Collection	Timing / Frequency of measurement
Key Risks				
<i>Conflicting Interests</i>	<ul style="list-style-type: none"> • <i>Complaints by new networks</i> • <i>Delays in annual reporting</i> 	<ul style="list-style-type: none"> • <i>Annual progress / Summary reports / Program Officer Reports</i> 	<i>NCE Secretariat with the assistance of NSERC finance</i>	<i>Based on risk</i>
<i>Financial Accountability</i>	<ul style="list-style-type: none"> • <i>Incidence of non-compliant expenditures</i> 	<ul style="list-style-type: none"> • <i>Annual progress/ Summary reports / Program Officer Reports / Monitoring Reports</i> 	<i>NCE Secretariat with the assistance of NSERC finance</i>	<i>Annually</i>

5.2.1 Data Sources and Integrity

The data sources and collection methods identified in the Performance Measurement Strategy table constitute multiple lines of evidence that can be used to gather the appropriate information for each indicator. Each of these data sources and collection methods are described in this section. Note that data for some indicators will also be collected within the course of evaluation activities; the data sources more appropriate to evaluation are described in the next section of the RMAF.

5.2.2 Administrative and Monitoring Reports

The use of annual progress reports and summary reports, as well as corporate reports submitted by recipient organizations as a data collection method for performance measures has been implemented by the NCE program Secretariat for a number of years. BL-NCE recipients will send annual progress and summary reports electronically, making data capture and analysis relatively easy and timely, two important features of any good performance measurement system. Recipients will also send their annual corporate reports.

Data integrity for annual reports is based on the quality of the information provided by recipient organizations. The validity of the reporting instruments will be monitored and any required clarifications will be made.

Whenever possible, program data and statistics that are either already available or that can be collected using a file review method will be used. These data sources include survey results or data from available statistics on target population. Data integrity for this type of performance information largely depends on the methods used to collect it by the organizations providing it.

5.2.3 Corporate Databases

The NCE Secretariat has access to NSERC and SSHRC corporate databases and manages specific NCE database that stores information necessary to manage and monitor the lifecycle of the granting processes, such as information relating to the receipt of the initial application; peer review; final approval, and monitoring of awards. The NCE database will be adapted to respond to the needs of the BL-NCE Program. Performance indicators collected from the

networks annually will be entered compiled in the NCE database for performance management. Measures to ensure data integrity are built into the input process managed by program staff.

5.2.4 Review and Adjustment of the Strategy

Detailed performance measurement strategies for the BL-NCE program will be developed during the early implementation of the program and reflect the program structure at that time. Each performance measurement strategy will be reviewed as it is implemented, and changes made to reflect new program orientations or delivery mechanisms. In the future, the data collection methods used will be refined as needed to provide more streamlined information or to include missing information.

5.3 Performance Reporting

The information collected for performance measurement will be reported through various mechanisms. Each agency will be accountable for all reporting obligations to Treasury Board and Parliament with respect to the funding received for the BL-NCE program. The NCE Secretariat will be responsible for the administration of the program and for providing consolidated reports on the overall impact of the program. The table below (Table 5.3) provides further details on performance measurement reporting procedures.

Table 5.3 Performance Reporting

Type of Report	Purpose	Contents	Frequency of Use/ Timing	Responsibility
Departmental Performance Report	Reporting to Parliament on NCE program outcomes	Granting Agency funding received for the NCE program	Annual	Tri-Agency
NCE Annual Report	Reporting to public on the NCE programs activities and outcomes	Summary of outcomes and achievements	Annual	NCE Secretariat

5.4 Evaluation Plan

Two evaluations will be conducted of the BL-NCE program. The first will be a review of the relevance and effectiveness of the BL-NCE Program, which will be completed in 2010-2011 in order to inform potential renewal of funding and continuance of program authorities. This review will focus on outputs and progress towards achievement of immediate outcomes, in order to assess the results achieved during the first two years of funding; it may also include implementation and design and delivery issues.

In addition, a summative evaluation will be conducted at the end of the program's present funding cycle. This evaluation may be conducted jointly with the evaluation of the Networks of Centres of Excellence (NCE-Classic) program. The evaluation will focus on relevance, progress toward success, and cost-effectiveness.

As a Tri-agency program, evaluations of the BL-NCE program will be overseen by the Interagency Evaluation Steering committee, which is comprised of the Heads of Evaluation of CIHR, NSERC, SSHRC, and a representative of Industry Canada.

Evaluation issues and questions for the summative evaluation are identified below. More specific evaluation questions and timelines specific to the evaluation will be determined at the time of the program evaluation. A budget in the range of \$250,000 has been set aside for evaluation purposes.

5.4.1 Evaluation Issues

The first step in developing an evaluation strategy involves the identification of the issues and associated questions that need to be addressed during the evaluation. This section outlines the three basic evaluation issues (relevance, success, and cost-effectiveness). These evaluation questions will be reviewed and modified during a planning phase prior to conducting the evaluation in order to respond to any information needs required for decision-making purposes.

Relevance

The issue of relevance focuses on the needs that originally prompted the creation of the program and whether these needs have been met by the program. The relevance questions that should be covered in the evaluation of the BL-NCE program include the following:

1. What specific needs are addressed by the program?
2. Is there a role for the federal government in delivering the program?
3. Are the program's objectives consistent with departmental and government-wide priorities?

Success

The issue of success refers to the achievement of the outcomes outlined in the logic model. In most cases, the evaluation questions for this issue will focus on the progress towards achievement of the outcomes identified in the logic model developed for each program stream. Other questions may focus on some of the unintended impacts of the program.

Program success

4. What progress has been made towards expected outcomes? Specifically, with respect to:
 - ❑ Research training
 - ❑ Public-private sector collaboration
 - ❑ Industry R&D receptivity and capacity
 - ❑ Commercialization

Efficiency and Economy

The issue of efficiency and economy focuses primarily on the delivery of the BL-NCE program and on whether alternative delivery options would be more suitable. The evaluation questions for this issue include the following:

Program Efficiency and Economy

5. Are the most effective and efficient means being used to deliver the BL-NCE program?
6. Can the efficiency of the BL-NCE program be improved (i.e., can program outputs be achieved in a more affordable manner)?

5.4.2 Evaluation Approach

An evaluation focused on the results of the BL-NCE program will be undertaken. Like the Performance Measurement Strategy, the Evaluation Strategy requires the identification of specific data requirements for each of the evaluation questions. These data requirements, or indicators, can be based on those in the performance measurement strategy or can be specific to one evaluation question. The summary table that follows (Table 5.4) identifies the indicators specific to each evaluation question presented above, as well as data sources or collection method, responsibility for collection, and type of study. It should be noted that the evaluation issues will be measured in part by the indicators identified in the performance measurement table located in the previous section of the RMAF. The table below displays the indicators that will be measured through evaluation activities only. It is understood that the data collected on an on-going basis will also be used to answer evaluation questions.

Table 5.4 Evaluation Strategy

Evaluation question	Indicator	Data sources / collection methods	Responsibility for data collection	Type of Evaluation
Relevance				
What specific needs are addressed by the program?	<ul style="list-style-type: none"> • Unique aspects of BL-NCE program (e.g., lead by private sector, private sector driven research, duration, research area, direct research costs , etc.) • Opinions of stakeholders 	<ul style="list-style-type: none"> • Literature / document review • Key informant Interviews • Survey of partners • Survey of researchers 	Evaluation unit	Summative evaluation
Is there a role for the federal government in delivering the program?	<ul style="list-style-type: none"> • Opinions of stakeholders 	<ul style="list-style-type: none"> • Key informant interviews 	Evaluation unit	Summative evaluation
Are the program's objectives consistent with departmental and government-wide priorities?	<ul style="list-style-type: none"> • Evidence of consistency of objectives and outcomes with Government plans and strategies 	<ul style="list-style-type: none"> • Literature/ document review • Interviews with Government representatives 	Evaluation unit	Summative evaluation
Success				
What have been the results of the program? Specifically with respect to:				
Research training	<ul style="list-style-type: none"> • Number of trainees hired by partners • Trainee satisfaction with research experience and/or job training 	<ul style="list-style-type: none"> • Survey of researchers • Survey of partners • Case studies • Survey of students 	Evaluation unit	Summative evaluation
Public-private sector collaboration	<ul style="list-style-type: none"> • Nature and extent of partnerships (collaboration in research planning, implementation and dissemination, reciprocity, regional vs. domestic vs. international, intensity of partnership) • Number of personnel involved, 	<ul style="list-style-type: none"> • Data/document review • Case Studies • Survey of researchers • Survey of partners • Network Analysis 	Evaluation unit	Summative evaluation

Evaluation question	Indicator	Data sources / collection methods	Responsibility for data collection	Type of Evaluation
	province, academic vs. private vs. public sector) <ul style="list-style-type: none"> • Compared to the proportion of network researchers overall • Representation of academic/private/public sector representation among members of research planning committees and of research projects • Sustainability of partnerships during BL-NCE funding and beyond 			
Industry R&D receptivity and capacity	<ul style="list-style-type: none"> • Number partners using results of the network research • Changes in number (and type) of employees dedicated to R&D • Changes partners investment in R&D and advanced technologies • Opinions of partners regarding changes in capacity and receptivity in their organizations 	<ul style="list-style-type: none"> • Data/document review • Case studies • Survey of partners 	Evaluation unit	Summative evaluation
Commercialization	<ul style="list-style-type: none"> • Presence of a documented path to market or business application • Number of patents applied for and issued • Number of license agreements and amount of associated revenue • New/improved products, services or processes • Revenue increases among partners due to BL-NCEs • Number of companies created/ experienced growth using network research results • Number and nature of policies and practices of the user sector that have been influenced by network research findings • Evidence of economic impacts 	<ul style="list-style-type: none"> • Data/document review • Case studies • Survey of researchers • Survey of partners 	Evaluation unit/	Summative evaluation
Cost-efficiency and economy				
Could similar outcomes/impacts be achieved more cost-effectively with some other delivery mechanism	<ul style="list-style-type: none"> • Informed expert opinion 	<ul style="list-style-type: none"> • Key informant interviews 	Evaluation	Summative evaluation
	<ul style="list-style-type: none"> • Administrative costs as a percentage of total costs in comparison to other similar networking programs 	<ul style="list-style-type: none"> • Financial data / document review • Cost efficiency analysis 	Evaluation unit /NCE Secretariat	Summative evaluation

5.4.3 Data Sources and Collection Methods

Data/Document Review

The review of existing data and documents provides useful information about the program. Data will include on-going performance indicators collected in statistical, progress and final reports.

Surveys/Interviews with Target Audiences

Surveys and interviews will be used in the context of program evaluations to obtain data on the opinions and perceptions of university researchers, private and public sector and not-for-profit partners, graduate students, post-doctoral fellows, granting agencies, and other experts. Periodic surveys also allow the collection of data that can be used to validate other data collection methods, such as the review of progress and final reports.

Case Studies

Case studies will involve the systematic documentation (e.g., using files reviews and interviews) of the impacts of the networks and their research activities undertaken to support the private sector. Attempts are made to identify not only the direct impacts by the private sector but also the indirect impacts, such as change in business culture and contributions to the improvements to the national innovation. They can also provide good illustrations and understanding of the effects of organizational, and technical factors influencing the private sector S&T activities. Retrospective case studies focusing on multiple scientific innovations and their commercialization rather than just one may be useful to identify impacts and linkages between the networks and the private and public sectors over long intervals of research investment. Generally, however, there is no way to add up all the results of a group of case studies to obtain a measure of the total impacts of a program.

Cost Efficiency Analysis

The cost effectiveness analysis proposes a systematic analysis of whether a program is an efficient delivery model or whether the same results could be achieved at a reduced cost by using other delivery models. It allows establishing the extent to which similar outcomes/program impacts could be achieved more cost-effectively using an alternative delivery structure.

5.5 Reporting Strategy

In addition to performance reporting, program performance is reported in evaluation reports. The NCE Steering Committee oversees the implementation of the integrated RMAF-RBAF and all other reporting requirements. This implies that the NCE Secretariat is responsible for adequate data collection, performance reviews and reporting on an ongoing basis.

The NCE Steering Committee is responsible for reporting the performance information and the evaluation results to Industry Canada. The evaluations of all of the NCE programs (including BL-NCE) are conducted by the three Granting Agencies. To keep this process arm's length, and Interagency Evaluation Steering committee has been created to oversee the evaluation process for the NCE programs and submit a final evaluation report to the NCE Steering Committee. The Interagency Evaluation Steering Committee is composed of representatives from the three granting agencies, as well as from Industry Canada, Treasury Board, and the Department of Finance.

Table 5.5 Evaluation Reporting

Type of Report	Purpose	Contents	Frequency of Use/ Timing	Responsibility
Ongoing Performance Measurement	To report on annual progress toward success.	Integrated Annual Performance Report	Annual	NCE Secretariat
Special Studies	To obtain specialized information, for example, on implementation issues raised during usual monitoring of the program	Summary of specialized information	Variable, conducted on an ad hoc basis	NCE Secretariat
Evaluation Report	To report on the BL-NCE program with respect to its continued relevance, program success and cost-effectiveness.	Summary of evaluation findings, conclusions and recommendations	End of year 5 of the program	Interagency Evaluation Steering committee

5.6 Risk Management Plan

The proposed Incremental Mitigation Measures identified during the risk assessment will be assessed for urgency and practicality in terms of short, medium, and long-term strategic planning. The objective is to determine the areas to focus investment based on priorities and available resources. Once there is agreement on the incremental measures that could be implemented, the NCE Steering Committee will plan the management of key risks by establishing the relevant inputs and outputs (i.e. timelines, stakeholder accountability, resources, frequency of reporting, and stakeholder communications) as illustrated in Table 5.6, below. The proposed plan can then be set out in a **Risk Register** and appropriately integrated into strategic and operational planning and reporting.

Table 5.6 Risk Management Plan

Risk Management Tasks	Risk Management Plan	Time Line			Responsible Parties
		0-6m	6-12 m	12-24 m+	
1. Who needs to review the risk assessment to assure its reliability and credibility?	<ul style="list-style-type: none"> NCE Steering Committee 	√			Associate Vice-President NCE
2. To whom do the results of the risk assessment need to be communicated and when	<ul style="list-style-type: none"> Chair of NCE Steering and NCE Steering NCE Steering Committee 	√			Associate Vice-President NCE
3. Who needs to review/approve the choice of Incremental Risk Management Measures and Risk Indicators?	<ul style="list-style-type: none"> NCE Steering Committee 	√			Associate Vice-President NCE
4. How will the measures be implemented and managed (activities, resources, skills, training, organization, roles etc.)?	<ul style="list-style-type: none"> As an ongoing element of the Secretariat management Final commitments to Incremental Risk Management Measures will be set out in a Risk Register and the status on action will be reported on the Risk Register semi-annually 		√	√	Associate Vice-President NCE

Risk Management Tasks	Risk Management Plan	Time Line			Responsible Parties
		0-6m	6-12 m	12-24 m+	
5. What stakeholders, if any, should be informed of the Key Risks and Incremental Risk Management Strategies?	<ul style="list-style-type: none"> Treasury Board of Canada, Secretariat Over a medium term timeframe, Business-led networks will be introduced to the Secretariat's risk management practices and reports 	√		√	Associate Vice-President NCE
6. What stakeholders, if any, need to be included in the implementation of incremental risks management measures?	<ul style="list-style-type: none"> None at this time, Incremental Risk Management Measures are internal to the NCE Secretariat 				N/A
7. What strategies should be in place to address potential surprise events (unforeseen events)?	<ul style="list-style-type: none"> Potential for surprise will be a regular consideration incorporated into NCE management regimes 	√			Associate Vice-President NCE
8. What is the strategy for updating the risk assessment on a regular basis? <ul style="list-style-type: none"> Updating the Risk Matrix Updating the Tolerance Model 	<ul style="list-style-type: none"> An update of the risk assessment will be done regularly The Risk Matrix and Tolerance Model will be reviewed with each update 		√	√	Associate Vice-President NCE
9. How will the results of the risk assessment and risk management strategy be reported and disclosed?	<ul style="list-style-type: none"> External reporting and disclosure will be done through the Reports to the NCE Steering Committee and reports on the Departmental Performance Report of NSERC 		√		Associate Vice-President NCE Granting Agencies
10. How will the results of the risk assessment be coordinated with audits or evaluations?	<ul style="list-style-type: none"> Annual audit and evaluation plans will incorporate consideration of risk assessment updates 			√	NSERC Corporate Internal Auditor and Heads of Evaluation

5.7 Internal Audit

Program funding administered by the NCE Secretariat falls under the purview of NSERC's internal audit function. NSERC's internal audit function supports the agency's efforts to achieve its corporate objectives, through its independent assessment of NSERC's internal management framework and by providing senior management with assurance regarding its risk management, internal controls, and governance practices, including, but not limited to NSERC's core granting programs. In compliance with the Treasury Board Policy on Internal Audit, the priorities for NSERC's internal audit function are determined based on a risk-based audit-planning framework. This framework includes the annual review of NSERC's core controls, as part of the holistic assurance regime, and annual assessment of specific risk exposures across NSERC, whereby programs and functional activities with the highest associated risks are recommended for audit, as part of the internal audit function's annual plan. The resulting annual plan for internal audit is submitted to NSERC's Audit Committee for approval.

The Auditor General of Canada is CIHR's, NSERC's and SSHRC's external auditor and is responsible for conducting an external audit of their financial statements. Over the years, the Auditor General has consistently rendered an unqualified opinion regarding the agency's and NCE's financial statements.

Program Audit Framework

The BL-NCE Program is a class grants transfer payment program and as such recipients are not subject to account for their expenditures, nor normally subject to audit. To ensure financial oversight and accountability the recipients of a BL-NCE grant shall incorporate under Part II of the Canada Corporation Act, requiring them to have an established Board of Directors responsible for the approval of its annual financial reports and audits. In instances where members of the BL-NCE networks are affiliated to organizations eligible to receive funds from one of the three agencies, the established Tri-Agency monitoring procedures, which may include visits from the representatives of the granting agencies may be applied.

Recipients will be informed of the right to audit provisions of the Auditor General Act. The Auditor General (AG) has the power to inquire into the use of a transfer payment, including provision for the AG to undertake performance or compliance audits with respect to the use of federal funds, and for the recipient to make records and information available to the AG.

The Auditor General of Canada is SSHRC, NSERC and CIHR's external auditor and as such conducts annual audits of their financial statements.

5.8 Audit Reporting

The table below (Table 5.7) provides further details on audit reporting.

Table 5.7 Audit Reporting

Type of Report	Purpose	Contents	Frequency of Use/ Timing	Responsibility
Audit Report	Assurance fundamental controls are performing effectively and identification of opportunities for improvement, if significant weaknesses are detected.	Statement audit objectives, scope, methodology applied, overall opinion, supported by detailed observations & related recommendations.	Variable – typically 2-3 assignments per year.	Internal Audit
Management Letters	Communication of issues of lesser significance, which do not adversely affect the audit opinion.	Description of issue sufficient to enable management to act, either to study the issue further or to take corrective action.	Periodic – tied to audits, but not always needed.	Internal Audit

Appendix A Risk Matrix Model

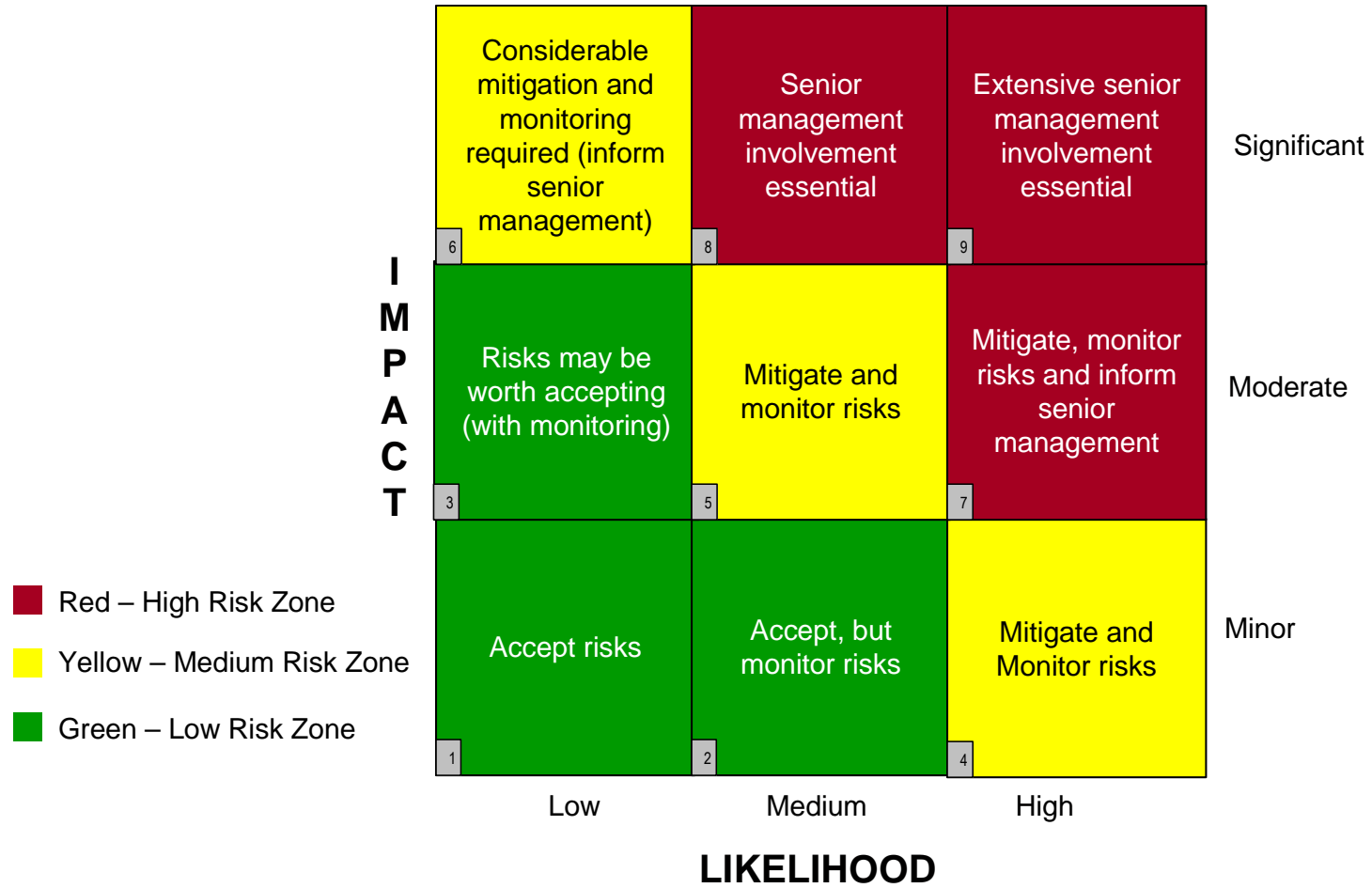
Qualitative Measures of Impact

Level	Impact	Damage & Liability	Operational Effects	Reputation loss
3	SEVERE	<ul style="list-style-type: none"> Loss or disclosure of highly sensitive client or Council information Loss of major asset(s) > \$250k 	<ul style="list-style-type: none"> Disruption of all essential programs >7 days for large Significant underachievement of objectives Cancellation of major projects Loss of key corporate knowledge 	<ul style="list-style-type: none"> Significant loss of client group trust Public/media outcry for removal of Minister and/or departmental official Media outcry for removal of Minister and/or departmental official Strong criticism by review agencies
2	MODERATE	<ul style="list-style-type: none"> Loss or disclosure of sensitive client or Council information Loss of major asset(s) \$50k-\$250k 	<ul style="list-style-type: none"> Disruption of some essential program services <7 days Schedule delays to major projects Some underachievement of objectives Some loss of key corporate knowledge 	<ul style="list-style-type: none"> Some loss of client group trust Negative media attention Criticism by review agencies
1	MINOR	<ul style="list-style-type: none"> Disclosure of personal information Loss of major asset(s) < \$50k 	<ul style="list-style-type: none"> Schedule delays to minor projects 	<ul style="list-style-type: none"> Setbacks in building of client group trust Some unfavorable media attention Some unfavorable observations by review groups

Qualitative Measures of Likelihood (360 Months Time Horizon)

Level	Likelihood	Description
3	HIGH	The event is expected to occur in most circumstances
2	MEDIUM	The event should occur at sometime
1	LOW	The event occurring is unlikely

Appendix B Risk Tolerance Model



Appendix C Risk Assessment

RISK AREAS IDENTIFICATION WORKSHEET			
Objectives / Outcomes: to establish large-scale "Business-led" collaborative networks that will perform research to support private sector innovation in order to deliver economic, health, social and environmental benefits to Canadians and to encourage an Entrepreneurial Advantage.			
Risk Areas (including estimate of the potential for surprise element)	Preliminary Risk Assessment		
	High	Medium	Low
1. Management of competing interests (e.g. 50% matching funds from private sector must be divided among the members of the consortia which may lead to issues of integrity of objective, ethics, respect of governance, IP issues)	X		
2. Internal challenges (e.g. tight timelines, adapting to new programs including new reporting structures)	X		
3. Financial accountability - consortia may not be familiar with dealing with granting agencies financial rules and guidelines (e.g. payment of ineligible expenses, separate accounts for different sources of funding, less scrutiny on private funds)	X		
4. Failing to meet performance reporting requirement - there may be new consortia with less experience of performance reporting		X	
5. Achieving matching funds from private sector (50% matching)		X	
6. Challenges faced by consortia relating to program delivery, including peer review, administration, results evaluation and adherence to policies (e.g. environmental assessment and animal care)		X	
7. External events (e.g. severe economic downturn) which could impede the capability of the consortia to deliver their business/research plan (e.g. private sector withdraws their participation).		X	
8. Potential For Surprise		X	
9. Challenges for peer review in having to review both business and research potential goals and outcomes			X

RISK ANALYSIS WORKSHEET				
<p>Objectives / Outcomes: Stimulate internationally competitive, leading-edge fundamental and applied research in areas critical to Canadian economic and social development; Develop and retain world-class researchers in areas essential to Canada's productivity and economic growth; Create nation-wide multidisciplinary and multisectorial research partnerships; accelerate the exchange of research results within the network and the use of knowledge within Canada</p>				
<p>Risk Area (R): R1 - Competing Interests – There may be challenges managing competing interests among consortia members who may already compete and who may have made greater or lesser contributions. This may lead to some parties being reluctant to participate and the collaborative model being less effective than anticipated.</p>				
Particular Concerns & Impacts (Damages & Liabilities, Op. Effects, Rep. Loss)	Existing Measures for Managing Risk Area	Residual Risk Level (1-9)	Incremental Risk Management Strategies	Responsible Party
<p>Concerns:</p> <ul style="list-style-type: none"> - the program delivery model puts a lot of money (2 million each) in the hands of the consortia who must divide the money among themselves - majority of consortia board members will be from private sector. therefore, the potential for competing interest exists as some of the members may already be competitors - funds may be allocated in a way that is not supported by everyone or that is not well aligned to the objective of the Centre - the overall governance model may not be respected - inequality of contribution of funding may result in inequality of influence of funding allocation or exploitation of IP (e.g. partners may contribute larger amount of the funding and may expect a larger influence on the funding allocation) <p>Impacts:</p> <ul style="list-style-type: none"> - we may lose some parties who are nervous about how the process might be implemented - Researchers may be reluctant to participate because the goal is more applied research and researcher has less control over the direction of the research - The collaborative model is less effective than anticipated - Loss of reputation from these kinds of concerns being exposed 	<ul style="list-style-type: none"> - There are many existing rules and guidelines with which to share with the consortia to help them manage (e.g Program Guide, IP Rules, Conflict interest Policies) - Senior program manager will sit on the board of director of the consortia and other committees as needed to help share best practices, provide advice and identify possible issues. (non voting) - A voting member of the BOD can be nominated by NCE secretariat - Governance is established through the proposal and approval process - The consortia have to incorporate and will have governance by laws <p>Efficacy (1-5) = 3.5</p>	5	<ul style="list-style-type: none"> - Ensure that the staff who sits on the BOD are well attuned to this issue and discuss routinely within the team - NCE Secretariat ensures open communication with academic participants so that their concerns can be addressed in a timely manner 	<p>NCE Program Lead</p> <p>NCE Program Managers</p>

RISK ANALYSIS WORKSHEET				
Objectives / Outcomes: Stimulate internationally competitive, leading-edge fundamental and applied research in areas critical to Canadian economic and social development; Develop and retain world-class researchers in areas essential to Canada's productivity and economic growth; Create nation-wide multidisciplinary and multisectorial research partnerships; accelerate the exchange of research results within the network and the use of knowledge within Canada				
Risk Area (R): R2 – Internal Challenges - Tight timelines and the need to adapt to new programs, including new reporting structures, and may affect the ability of the program to deliver expected results.				
Particular Concerns & Impacts (Damages & Liabilities, Op. Effects, Rep. Loss)	Existing Measures for Managing Risk Area	Residual Risk Level (1-9)	Incremental Risk Management Strategies	Responsible Party
Concerns: - Addition of business-led program within the NCE secretariat represents additional workload without significant increase in resources - Timelines are always short (and fixed in some cases by TBS) - Expert panels and review committees may be discouraged by an increased workload making it harder to recruit panel and committee members - New reporting structure results in new responsibilities for senior program managers e.g. only internal review of annual report, no external peer review Impacts: - Increased pressure on staff may make possible errors and omissions - Tight timelines may affect ability of the program to deliver e.g. impact on quality of the proposals and quality of peer review	- Effective and well connected staff - Restructuring is underway to improve work capacity and efficacy - Training and procedures are being developed for new reporting approach Efficacy (1-5) = 4	3	None Required	