2007 NCE Program Evaluation

NCE Management Response

Management's view of the process

The consultant's evaluation report is very detailed and is based on the analysis of many documents and data collected by the networks and the NCE program (annual, mid-term and renewal reports), as well as on qualitative and comparative evidence collected from multiple sources during the evaluation. These consisted of: surveys of both NCE funded and non-NCE researchers and students; interviews with stakeholders; and in-depth case studies of eight networks. Lead by the NSERC Evaluation team, it was overseen by an Inter-Agency Evaluation Steering Committee. The NCE Management is satisfied with the methodology and process used by the consultant, accepts the conclusions of the reports and proposes certain actions in response to the recommendations. The evaluation focussed on three central issues: the rationale or continued need for the program; cost-effectiveness and delivery (program management); and program success. Program success includes: excellence in research; research training; research collaboration and partnerships; and knowledge and technology exchange and exploitation.

As indicated in Recommendation 1 of the 2007 NCE Program Evaluation report, (Findings: Program Continuation) the Evaluation recommended that the program be maintained, since it occupies a unique position in addressing issues that are important to Canada in an integrated manner and in supporting knowledge transfer. The NCE management is pleased with this recommendation, as it reinforces the importance of the NCE Program as a major instrument for the Granting Agencies and Industry Canada to support large scale collaborative research aimed at solving important problems for Canadians. Furthermore, Budget 2007 and the subsequent federal S&T Strategy confirmed this by assigning three new programs to the tri-agency NCE Secretariat, namely Centres of Excellence in Commercialisation and Research, Business-Led NCE and Industrial R&D Internships.

The Evaluation report also concluded that the program produces significant incremental benefits to Canada and Canadians, and that it is managed in a cost-effective and efficient manner (Findings: Cost-effectiveness). The NCE management is pleased with that conclusion and will continue to ensure that the NCE Secretariat continues to manage the NCE program and the new programs in a cost-effective transparent and accountable manner, with a concern for continuous improvement in its processes and operations.

Other recommendations made in the Evaluation report that need follow-up are presented below with the accompanying management response.

Response and follow-up proposed by NCE Management to the recommendations from the 2007 NCE Program Evaluation

NCE Evaluation Report Findings: Highly Qualified Personnel Training

According to the Evaluation report, the NCE Program offers more opportunities to students with regard to publications and conferences, ethical debates and exposure to real-life practices. Participation in the NCE Program also leads to a better fit between the field of study and employment.

According to researcher input, more recently formed NCE networks offer more frequent access to multi-disciplinary initiatives and ethical debates about research, but less exposure to real-life practices than older NCE networks. Access to multi-disciplinary initiatives is somewhat easier in health sciences than in natural sciences and engineering or in social sciences and humanities; access to ethical debates is easier in health sciences and in social sciences and humanities than in natural sciences and engineering.

The Evaluation report concluded that, all in all, the training objective of the NCE Program seems to have been achieved only in part. Within the HQP training aspect of the program, the emphasis on multi-disciplinarity is of particular concern considering the importance that this feature has in the logic of the program.

Recommendation 2: *The program should restate the importance of the Highly Qualified Personnel (HQP) training objective and request that networks develop additional strategies designed specifically to bolster the multidisciplinary and multi-sectoral components of HQP training.*

NCE Management Response:
The NCE management views this recommendation as an opportunity to bolster the new skills and value added that Networks can provide in the multidisciplinary, multi-sectoral training of students in order to enhance their "market readiness" and their capacity to improve Canada's quality of life when they graduate. In its communications with the networks, the NCE program will re-emphasize the importance of this training and encourage the networks to put in place additional strategies to that effect, to monitor progress and to share best practices among themselves. The NCE Directorate will ensure that best practices are made available to the starting networks and adapt the data collection and reporting system to better measure the networks' performance in these areas.

Follow-up proposed:
1. Update NCE guidelines relative to HQP training and development. Timeline: Next NCE Program Competition.

2. Update current HQP Development and Training Best Practice documents to provide examples of such strategies and training. Ensure that these will be made available to starting networks. Highlight the need to broaden the HQP, and provide additional skills, to ensure that the HQP addresses the needs of the network's partners and user

sector, and Canada's society. Timeline: After the Announcement of the new networks.

3. NCE directorate will re-evaluate its current Performance Measurement System to be able to capture the multidisciplinary and specific nature of NCE-HQP, in addition to total numbers of trainees and activities. Timelines: 2009-2010.

NCE Evaluation Report Findings: Research Collaboration and Partnerships

Globally, NCE networks have shown more collaboration results than application results. By design, the NCE model sees networking as a predecessor to application: through networking, the most productive avenues of research are identified; networking also contributes to the dissemination of knowledge stemming from the research. There is a risk with the NCE model that networking could become an end rather than a means. Restating the role of networking as a conduit to knowledge and then application is crucial.

The new policy directions outlined in Mobilizing Science and Technology to Canada's Advantage, the most recent S&T policy statement of the Government of Canada, and the new initiatives it contains (Business-led research networks, Centres of Excellence in Commercialization and Research, tri-council private-sector advisory board for the granting councils) should revive NCE results in terms of knowledge transfer activities and knowledge utilization. More generally, and in order to impact on existing networks, the program should revisit its performance measurement scheme to emphasize the importance of knowledge transfer efforts by networks and knowledge utilization by the receptor community.

Recommendation 3: *Revise performance measurement schemes to emphasize knowledge transfer and knowledge utilization as end results, and networking as a means to that end.* (Also discussed by IAC – Recommendation 14 -16.)

NCE Management Response:
While Networking and Partnerships are an integral part of the NCE program, excessive reporting in those areas could detract from their key purpose, which is to bring together the best possible teams to work on the networks' research problems and to establish (at the outset) a close collaboration with the receptors of that research, thus strengthening and speeding up the Knowledge and Technology Transfer (KTT) functions of the network. The NCE Program will review its program literature and reporting guidelines and make the necessary (small) adjustments, in order to better separate the activity measurements for Networking and Partnerships, from the impact measurements of KTT.

Follow-up proposed:
1. Update *NCE Program Guide*, and other relevant literature - Timeline: Next NCE Program Competition.

2. Update NCE Program Performance Measurement System to separate activity measurements from measurements of what they are achieving. Indicators should also place more emphasis on determining if the networks have the right partners to achieve their goals. Timeline: 2009-2010.

NCE Evaluation Report Findings: Knowledge and Technology Exchange and Exploitation

These results of the evaluation are clearly positive for the NCE Program. However, while the NCE Program performs better than other networks-related programs in areas where commercialization is a possible outcome, where the expected outcomes are not related to commercialization — such as public policy, regulations, and changes to practices — this evaluation indicates that the NCE Program does not provide more benefits than other networks-related programs.

Networks deal with varied subject matters, using diverse strategies and a range of network compositions. The one thing that ties them all together is the NCE Program logic model: all networks use networking, leading-edge research, nation-wide, multi-disciplinary and multi-sectoral research partnerships as well as training strategies to achieve accelerated exchanges with the receptor community and use of knowledge, the development of world-class researchers, the creation of functional multi-regional interdisciplinary research teams and the development of a pool of highly qualified personnel. We recommend that the program adopts these eight outcomes as the reporting structure for each network and that each network be requested to produce its own list of custom indicators of performance within these categories. This may mean that such traditional metrics as patent applications would become much less important if networks elected to measure their performance via other means of knowledge transfer.

Recommendation 4: *Rethink the performance reporting system around the program logic model so that each network can customize their performance indicators while respecting the overall program logic.* (Also discussed by the IAC: recommendations 14 and 16.)

NCE Management Response: The inherent complexity and uniqueness of the various Networks supported through the NCE program make it difficult to capture all of their impacts through a constrained measurement system. The recommendation from the evaluation team has merits in that respect, although the actual implementation may prove to be difficult, given that the program must also report globally on its performance and impact, which becomes problematic if there is no common set of data to aggregate from the various networks. NCE Management therefore proposes to follow-up on this recommendation by determining a set of performance metrics, that should remain common, and develop a set of guides on what would be expected from individually defined performance indicators. The Tri-Agency S&T Working Group on Measuring and Reporting of Impacts (created this year) will be asked to assist in revising the performance indicators for the NCE Program.

Follow-up proposed:

1. The NCE Secretariat will review and update the Performance Measurement System of the NCE Program around its revised logic model identifying a set of common performance metrics, with the assistance of the Tri-Agency S&T Working Group on Measuring and Reporting of Impacts. Indicators should better represent added-value of the program and performance in areas other than commercialisation, such as public policy, regulations and changes to practices. Networks will be encouraged to capture all their impacts. The NCE Secretariat will also develop a set of guides on specific performance indicators expected from the networks. Timeline: in 2009-2010

2. The NCE Secretariat will also put in place a Performance Measurement System for the three new programs launched in 2008 (CECR, IRDI, B-Led). Timeline: in 2009-2010.

NCE Evaluation Report Findings: Program Management

Information gathered in this evaluation suggests that the rigidity of the 14-year funding period is an impediment to overall program performance. Meanwhile, there was no consensus regarding the appropriate duration of funding, suggesting that a one-size-fits-all approach to the duration of funding is not appropriate. Since the NCE Program possesses well structured and well functioning peer-review mechanisms, it would be possible to tailor the duration of funding to the specifics of each network.

Recommendation 5*: Adapt the duration of the funding period to the particulars of each network, based on the level and excellence of research output, the level of application of the knowledge by the receptor community and the remaining salience of the issue that triggered the creation of the network.* (Similarly suggested by the IAC – recommendation 13.)

NCE Management Response:
In reviewing this recommendation, along with the IAC recommendation, it was decided that the NCE Program would revise the terms of future networks to five years per cycle, renewable once. A third funding cycle would also be possible for those networks that would demonstrate that they have become receptor-sector led. That third cycle would operate with similar terms as the Business-led program.

Follow-up proposed:

1. The NCE Secretariat will implement the change of duration of networks and revise the NCE Program operations and literature accordingly. It will also clarify definitions and expectations of Receptor-led networks (in accordance with the Business-led program) – Progress review process of networks must also be revised for the networks with a different duration: Timeline: NCE Program new competition.