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Government Response to the Tenth Report of the Standing Committee on Industry, Science and Technology

Canada's Innovation Strategy: Peer Review and the Allocation of Federal Research Funds

Canada

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Peer Review and the Allocation of
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Minister of Industry Ministre de l'Industrie

Ottawa, Canada K1A 0H5

Chair
Standing Committee on Industry, Science and Technology
House of Commons
Ottawa, Ontario
K1A 0A6

Dear Chair:

Pursuant to Standing Order 109 of the House of Commons, I am pleased to respond on behalf of the Government to the recommendations contained in the Tenth Report of the Standing Committee on Industry, Science and Technology, tabled in the House of Commons on June 12, 2002. Attached is the Government's response to the Committee's recommendations.

The work you and the Committee have done is excellent. You have analysed the evidence given before you in a thoughtful and thoroughly helpful way. We, in the Government, appreciate the way the Committee has focussed on a single issue, the allocation of federal research funds to university research, and examined it from a number of different perspectives. Thank you.

The congruence between the recommendations of the Committee and the priorities set by the Government in Achieving Excellence: Investing in People, Knowledge and Opportunity, one of the volumes of "Canada's Innovation Strategy," is striking. The Governor General, in the Speech from the Throne on September 30, 2002, addressed many of your issues. The Prime Minister, in his reply to the Speech from the Throne, also raised many of the points your raised. I am convinced that when consultations with Canadians from all walks of life about Canada's Innovation Strategy are completed we will see that your recommendations address many of their concerns too, either directly or indirectly.

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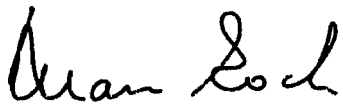
With this in mind, I want to assure the Committee that the Government wants to ensure that we meet the 21st century needs of Canadians in an efficient and effective manner. We want to develop an integrated and consistent Canadian innovation and learning action plan to implement the advice you have given us and the advice we receive through the engagement process that forms an important part of Canada's Innovation Strategy. This will require some weeks yet. When the Canadian innovation and learning action plan is put forward for comment, I am sure you and the Committee will recognize your impact on it.

Thank you again for your work and the work of your Committee in the interest of creating in Canada in one of the most innovative countries in the world.

Yours very truly,



Allan Rock

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GOVERNMENT RESPONSE

Chapter 2 - Recommendation 1

That the Government of Canada, in consultation with the provinces and territories, instate a permanent program for the support of the indirect costs of federally funded research in its next budget, and that the formula used to calculate the grant to each institution take into account the differential costs between large and small institutions.

Response

The federal Government is committed to sustaining a university research environment that is conducive to research excellence. The one-time payment for the indirect costs of research announced in the December 2001 Budget was provided to alleviate the financial pressures that were associated with recent federally funded research activity at universities and research hospitals. More importantly, both the Budget 2001 and the *Achieving Excellence* document committed the Government to working with the universities to find a long-term solution for the indirect costs of federally sponsored research. The Prime Minister highlighted this commitment in his response to the Speech from the Throne. The Speech from the Throne committed the government to work with universities on the indirect costs of research. The Government is currently working with universities, their affiliated research institutes and the provincial Governments on the parameters of a permanent program. To be successful, a permanent program will have to be fair, transparent, affordable and predictable, provide support that is incremental to the support provided by other programs or levels of Government, and recognize the special challenges faced by smaller universities as they become more research-oriented.

Chapter 2 - Recommendation 2

That the Government of Canada, in consultation with the provinces and territories, set up targeted programs through the granting agencies to assist "underdeveloped" small and regional institutions strengthen their research capacity in key areas, and that appropriations be made to the agencies to fund these programs.

Response

The Government of Canada has set an ambitious goal of becoming one of the most innovative countries in the world. With universities being a vital component of Canada's innovation system, it is important for universities of all sizes and in all regions to participate in innovative activities in order to achieve this goal. The Government of Canada recognizes the benefit of enabling smaller and regional universities to be part of a strong and competitive research capacity while maintaining excellence within the university research system in Canada.

Recent federal initiatives have taken into consideration the special situation of smaller universities. The Canada Research Chairs program has created a special allocation of research chairs to those universities who receive a small amount of research grants from the three federal granting agencies. These universities tend to be smaller and regional. Similarly, the one-time indirect cost payment in 2002 was designed in a way that provided indirect cost funding to smaller universities at a higher proportion of direct funding than larger universities. Existing programs at Natural Sciences and Engineering Research Council of Canada (NSERC) are available to all universities and representation of smaller and regional universities on the NSERC Council, its various policy committees and NSERC Grant Selection Committees ensure that the needs of all institutions are considered. Furthermore, a number of smaller institutions are using NSERC's Industrial Research Chairs program to develop their niche research areas and links to their local communities. Social Sciences and Humanities Research Council of Canada (SSHRC) has a program, "Aid to Small Universities," that is directed to development of focussed research capacity in smaller institutions. The SSHRC "Community–University Research Alliance" builds innovative research partnerships geared to the development of communities and 30 percent of those established to date are based in small and regional institutions. The Government of Canada is committed to continuing its efforts in building research capacity in smaller and regional universities in order to ensure maximum participation in the Innovation Agenda. The Government is currently exploring other ways of fostering a strong, competitive research environment in smaller and regional universities in Canada.

Chapter 2 - Recommendation 3

That the Government of Canada increase the level of funding to SSHRC, especially given the impact of this funding on researchers at smaller institutions.

Response

The Government of Canada is aware of the important role played by the humanities and social sciences in Canada's research and innovation system. The Government of Canada has been actively supporting SSHRC's research activities by the allocation of $100M dedicated to the Initiative on the New Economy, and by the higher than proportional allocation of research chairs in the Canada Research Chairs program. The Government of Canada is also committed to increase funding for the three granting agencies as outlined in the Innovation Strategy. The September 30, 2002, Speech from the Throne reiterated this commitment. The Committee's recommendation to re-balance funding to the three granting agencies by increasing SSHRC's funding could be given attention as the Government formulates its Canadian innovation and learning action plan.

Chapter 2 - Recommendation 4

That the Government of Canada immediately increase funding to all three granting agencies so that success rates and/or grant levels for excellent research can be increased.

Response

Canada's ability to generate and apply new knowledge is a key factor in our country's success in the global economy. The federal granting agencies play an important role in supporting world-class research that will generate the new ideas of tomorrow. Through their various programs they help universities attract and retain the brightest minds, encourage companies to invest in university research, train the highly qualified skilled workers needed by industry and other sectors of the economy, and help transfer the discoveries to communities and the Canadian economy. Students involved in NSERC's university–industry partnership program are exposed to exciting non-academic careers that help to retain them in Canada. In recognition of the important role that the granting agencies play, the Government has substantially increased total funding for the agencies since 1998. This funding, coupled with other major investments in research, such as the creation and further investments in the Canada Foundation for Innovation, the launch of the Canada Research Chairs program and the Initiative on the New Economy, have improved the university research climate in Canada. In the Speech from the Throne the Government committed to increase support for research and development to move the Government agenda forward. The Prime Minister addressed this specifically in his reply to the Speech from the Throne. The extensive consultations that are presently under way, on the Innovation Strategy, will provide a way for all stakeholders to examine the strategy proposed by the Government. The Committee's recommendation on granting agency funding will, along with the comments received during the consultations on the Innovation Strategy, help shape the Government's Innovation Agenda for the coming years.

Chapter 3 - Recommendation 5

That the Government of Canada encourage the granting agencies to collaborate further with each other and with non-academic stakeholders, including the provinces and territories, when deciding on target areas within strategic programs. The agencies should also ensure that formalized review mechanisms and adequate levels of funding are available to support high-calibre interdisciplinary research or research in emerging areas, especially that which crosses the boundaries of the agencies' mandates. The agencies should consider establishing a formal mechanism to facilitate collaboration on all levels so that their operations are more uniform, allowing for "seamless" access by the research community to federal research funds.

Response

Achieving Excellence has set as a priority for the Government to "Ensure effective decision making for new and existing policies and regulatory priorities." Collaboration among the three

granting agencies in appropriate circumstances is certainly consistent with this priority. In fact, there are mechanisms already in place whereby the agencies can provide joint support for research activities. The three granting agencies have participated recently in policy development on issues such as support for virtual universities and e-learning and research in applied sciences and engineering and Northern Research. NSERC has a formal process for re-allocating funding to areas of national importance in its Discovery Grants Program. Recently, this process provided funding to interdisciplinary initiatives in materials research and in data structures.

Many of the newer initiatives of the granting agencies have been built upon collaboration. These include tri-agency programs like the Networks of Centres of Excellence program, the Canada Research Chairs program, the Intellectual Property Management program and the one-time distribution of funds to help with the indirect costs of federally sponsored university research. Joint collaboration has led to programs such as the Chairs in the Management of Technological Change, and there are ongoing collaborations with respect to new programs. NSERC and SSHRC jointly sponsored a Task Force on Northern Research that presented its report in September 2000.

Agencies also involve non-academic stakeholders in decisions on target research areas. Examples include NSERC's Strategic Projects program and Innovation Platforms initiatives and SSHRC's Strategic Grants Joint Initiatives Program.

The funding priorities at Canadian Institutes of Health Research (CIHR) are decided by the Scientific Directors of the 13 institutes, each with the input of their advisory board and it is in their mandate explicitly to make such recommendations to the Governing Council.

Administratively the agencies are also harmonizing their policies and procedures to improve service to the university community. Examples of this include the Common Curriculum Vitae project, the tri-agency Secretariat on Research Ethics, the joint Policy Statement on Ethical Conduct for Research Involving Humans, the harmonization of NSERC and SSHRC post-award processes for scholarships and fellowships, and tri-agency harmonized guidelines with respect to use of grant funds. SSHRC and NSERC have made considerable progress in harmonizing their administrative procedures through the Common Administrative Services Division. The continuing Harmonization Project among the three agencies will further facilitate "seamlessness."

Collaboration on design and delivery of programs has become a normal approach on the part of the granting agencies and they are always seeking new ways in which to improve their service to the research community.

Chapter 3 - Recommendation 6

That the Government of Canada establish a more formalized mechanism, in consultation with the provinces and territories, for setting or modifying S&T policy, deciding on funding priorities, and ensuring that they are implemented. Such a framework could include a science advisory body and/or Chief Scientific Advisor that would report directly to Parliament.

Response

The Minister of Industry and his colleagues from other science-based departments and agencies regularly consult their provincial and territorial colleagues on science and technology policy issues. The Government also receives advice on science and technology issues from two arm's length advisory bodies – the Advisory Council on Science and Technology (ACST) and the Council of Science and Technology Advisors (CSTA). The Government carefully examined the governance structure for federal S&T at the time of the S&T Review (1994-96). At that time, there was broad consensus that a decentralized approach to S&T decision making was preferred, with a balance between the authority and accountability of individual ministers for directing their S&T activities to address their mandated responsibilities and a degree of horizontal policy coordination. With the implementation of the federal S&T Strategy (Science and Technology for the New Century, 1996), science-based departments and agencies (SBDAs) have strengthened their external advisory boards to provide them with advice on S&T issues. In the Strategy, the Minister of Industry was given the responsibility for "lead[ing] the coordination of S&T policy and strategies across the federal Government." The Minister is supported in this task by the Secretary of State (Science, Research and Development) who chairs the CSTA and is Vice-Chair of the ACST, thus being well positioned to appreciate the broad scope of federal and national S&T issues. Committees of officials at the Deputy Minister and Assistant Deputy Minister levels assist with the horizontal coordination of Federal Science and Technology Policy.

Chapter 4 - Recommendation 7

That the Government of Canada, given the increases in overall funding levels that should be made to the agencies, encourage the three granting agencies to increase success rates and stipend levels for existing graduate scholarship and post-doctoral fellowship programs. The granting agencies should also create or enhance scholarship programs that introduce undergraduate students to research.

Response

In *Achieving Excellence* the Government of Canada has identified as a priority considering ways of increasing the number of post-graduate students in Canadian universities, including increasing the number of fellowships awarded by the granting agencies, providing financial incentives to graduate students, and supporting graduate students conducting research as part of

their studies in work settings, including Government laboratories. The Speech from the Throne on September 30, 2002, committed the Government to this objective. In his response to the Speech from the Throne, the Prime Minister indicated that the government "will support graduate studies." The granting agencies have recognized the importance of opportunities for undergraduates to participate in research by establishing and enhancing existing research funding programs for undergraduates such as the NSERC Undergraduate Student Research Awards (USRA). NSERC has also sponsored a series of workshops across Canada to seek advice from stakeholders on improving graduation rates in Canada, and in particular, ways to improve NSERC programs with respect to the training of highly qualified personnel. SSHRC has increased funding to doctoral and post-doctoral fellowships. The Committee's recommendations on these issues will be very helpful to the Government in planning for a Canadian innovation and learning action plan.

Chapter 4 - Recommendation 8

That the Government of Canada create separate research funding programs administered either by the granting agencies and/or other Government bodies to support college researchers and students. The programs' selection criteria should reflect the situation at colleges and be based on excellence. Appropriations should be made to the relevant agencies to deliver these programs.

Response

The Government of Canada agrees with the Committee's assessment of the importance of colleges in Canada's innovation system. In *Achieving Excellence*, colleges are seen as one of the "innovation bases" on which it will be possible to anchor efforts to "strengthen the innovation performance of communities." Colleges meet the educational needs of vocationally-oriented students, the lifelong learning needs of the adult work force, and respond to the technology development and training needs of firms. The federal Government already recognizes the invaluable role colleges play in commercialization and technology transfer through their involvement in the National Research Council's Industrial Research Assistance Program (IRAP) and the CA*net 4 network. The Government is in discussion with community college stakeholders on developing appropriate vehicles for boosting the contribution of colleges to innovation. And, in particular, ways to enhance the ability of community colleges to play a crucial role in technology transfer and commercialization between themselves and small and medium-sized enterprises (SMEs). For example, NSERC is undertaking a series of visits to colleges to evaluate their research and innovation capacity, to determine their needs, and to explore how NSERC might be able to assist them to be more effective participants in regional innovation and economic development. College researchers in the social sciences and humanities are eligible to apply for research funding from SSHRC and on a limited basis from NSERC. CIHR includes in its competitions anyone working in a not-for-profit institution who is qualified and trained and is capable of competing at the national and international level, regardless of institution.

Chapter 5 - Recommendation 9

That the Government of Canada ensure that the granting agencies release all information on file relevant to a funding recommendation to applicants in addition to the notification of decision. Additionally, a formal appeal process, limited to perceived errors in procedure or fact, should be in place for applicants to all peer-reviewed programs, and a third party, not the original selection committee should review appeals of decisions.

Response

This recommendation addresses the ways in which granting agencies can continue to improve both their critical contribution to innovation in Canada and their support and service to researchers at Canadian universities. The arm's length granting agencies already make substantial information and counselling advice available to unsuccessful applicants to the peer review assessment in an effort to help them improve subsequent applications. NSERC also has a formal appeal process, limited to perceived errors in procedure or fact, by which appeals of funding decisions are reviewed by a third party, not the original selection committee. The release of further information and the establishment of appeal processes are under consideration by the other granting agencies. CIHR already supplies applicants with all the written comments sent by the reviewers, a summary of the committee's discussion and remarks, and the rating the committee gave to the application. SSHRC has a formal appeals process in place for appeals on the grounds of procedural error and error of fact. The granting agencies are all moving to provide increased feedback to researchers and continue to help researchers become more successful at accessing funding and are a ready source of advice on how to best use Canada's excellence focussed peer review approach.

Chapter 5 - Recommendation 10

That the Government of Canada require the granting agencies to engage in more regular internal reviews of their own programs and practices (including peer review), and to periodically examine decision-making processes at other Canadian and foreign agencies to ensure that best practices for the allocation of research funds are in place. The results of these internal evaluations should be easily accessible to the research community and general public.

Response

The granting agencies carry out third-party reviews and evaluations of their programs on a regular basis and publish the results. Since the inception of the S&T Strategy in 1996, 40 such studies have been completed by the three agencies, as noted in the Committee's report. Studies are also done periodically to review the practices of foreign research granting agencies. For example, the Canada Research Chairs program adopted the College of Reviewers approach to peer review assessment from foreign agencies. In addition, the role of the standing committees at NSERC is to regularly review existing program policies and recommend improvements, as

appropriate. The last two major evaluations undertaken by NSERC (Strategic Projects and Discovery Grants) included international comparisons as part of the methodology. CIHR has recently completed an examination of processes, including a comparison with other agencies, with a view to using information technology more intensively. SSHRC is currently in the process of reviewing all of its granting programs, intended to identify those that should undergo formal evaluation in the near future. All three granting agencies post evaluation results on the World Wide Web under new Treasury Board guidelines.

Chapter 5 - Recommendation 11

That the Government of Canada ensure that the federal granting agencies take steps to better measure and report on the outcomes and, where possible, impacts of their research programs for the benefit of the general public.

Response

The Government of Canada, through Phase 2 of the Improved Reporting to Parliament Project, involving the annual Report on Plans and Priorities and the annual Departmental Performance Report, and the annual Report to Parliament by the President of the Treasury Board on Canada's Performance, is engaged upon a large-scale effort to improve outcome and impact reporting across the Government. The Committee's recommendation can serve to enhance these initiatives that are already under way. The granting agencies, along with all Government departments and agencies, are continually seeking to improve their measurement and reporting so that Members of Parliament and the general public are better informed about the return-on-investment of these programs. NSERC, for example, is in the process of preparing a Results-based Management and Accountability Framework, similar to an evaluation framework, spanning all programs. Summary reports of evaluations are to be posted on the World Wide Web. SSHRC, NSERC and CIHR have committed themselves to better report on the impacts and outcomes of the research they support, through the development of improved evaluation frameworks, long-term evaluation priorities and a long-term evaluation plan based on "results-based management."