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February 18th, 2011

Re: CAE Inc. Submission to the Expert Review Panel on Research and Development

Preface

Technology leadership is at the core of Canada's worldwide success in Aerospace and Defence. Continued investment in technology and innovation, both on the part of companies, and through Government incentive programs is critical to maintaining market leadership. Programs such as SR&ED and the Strategic Aerospace and Defense Initiative (SADI) are key to allowing companies such as CAE Inc. to compete on a level playing field in today's global economy.

Companies must make continued sizeable investments in R&D to maintain their superiority and global leadership positions. Increased levels of Federal Government support are key to maintaining a worldwide leadership in simulation. Existing incentive programs such as SADI play a pivotal role in allowing CAE to perform R&D in order to maintain its leadership in simulation; however, the Program should be modified to better address the needs of companies such as CAE that develop technology-intensive niche products for a low-volume market. Moreover, the costs incurred to refresh and evolve these products during their first development cycle and throughout the commercialization process is critical. Additional incentive programs that address aspects of innovation other than just technology (i.e., business process innovation, service-oriented delivery methods, etc) should be introduced and the Government's incentive portfolio would be greatly enhanced by increasing the percentage of the credit and by making the SR&ED Program fully refundable as is the case with the Quebec program. Continued and increased levels of partnership with the Canadian Government is critical to stimulating innovation in Canada by leveling the playing field internationally and ensuring continued success in a highly competitive market.

Recommendations

The following recommendations are made in response to the call for Canadian stakeholder input to the Review of Federal Support to Research and Development Expert Panel Consultation Paper.

General [Questions 4, 9]

CAE currently accesses the following federal support programs: Strategic Aerospace and Defence Initiative (SADI), Scientific Research and Development Program (SR&ED), International Science and Technology Partnerships (ISTP) and supports graduate research



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through access to Natural Sciences and Engineering Research Council of Canada (NSERC) and Canadian Foundation of Innovation (CFI) funding.

CAE invests approximately \$120M in R&D every year to maintain technology leadership and continuously refresh its offerings through innovation and yet still experiences tremendous pressure to remain competitive in the global marketplace. Due to the increased pace of technological change, the rapidity with which a leading-edge technology companies must refresh and adapt to remain current is significant. The Federal Programs accessed by CAE are essential in allowing CAE to remain competitive in the global Aerospace and Defence market in addition to maintaining and increasing the technology competence within Canada. Central to CAE's strategy, and supported through these Government collaborations, has been to lead the market through innovation and developing leading-edge technologies while maintaining and strengthening its centre of engineering excellence within Canada. Continued, stable Government support through the setting of National priorities, improvement to and expansion of programs to maintain competitiveness, increasing the retention of highly educated and skilled resources, and sustaining the prosperity that continues to enhance the Canadian standard of living is crucial.

Resourcing [Questions 5, 7, 8]

CAE continuously participates in internship programs, University course work, and sponsors Masters/ PhD students through collaborative research projects. Presently CAE employs over 1,800 resources with advanced and technical degrees. Sponsorship of graduate research projects often leverages funding available through NSERC and/or CFI.

Many of CAE's most successful relationships have occurred when students have been given a very specific problem to solve within a very limited time period (~3months) during which time they may be interning at CAE which allows them to be working side-by-side with employees that are active on the project. This provides the student with an environment more suitable for more fluid information exchange and closed feedback loops in addition to access to subject matter experts, practical knowledge, commercialization constraints, and readily available integrated test equipment.

As students graduate from universities and technical institutions and enter the workforce full-time, companies bear the cost of providing these new graduates with the necessary practical training and business skill sets to be productive during their first year of employment. In order to offset the cost of this training and support and to recognize the extent to which companies provide this necessary continued education, the Government



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should consider a financial participation up to a maximum of 1/3 of a new graduate's wages during his/her first year of employment.

Tax and Incentive Programs [Questions 9, 10, 12, 13, 14]

The role that the Canadian Government plays with respect to helping Canadian companies compete on a level playing field in a competitive market is significant. Maintaining and enhancing strong, advantageous incentive and tax credit programs such as SADI and SR&ED is critical in enabling Canadian firms to compete and deliver a sustained economic and socio-economic value to Canada.

The SR&ED tax incentives specifically promote and encourage corporations to actively invest in R&D in order to maintain technology leadership. Recent changes in the tax form have facilitated the application process from the perspective of the amount of input required to submit an application. The form, its guide and the audit practice however, have shown marked changes in the level of importance placed upon compliance by the Canada Revenue Agency (CRA) at the expense of fostering an environment for an incentive program that encourages and nurtures innovation as a primary means to achieve competitiveness in the global marketplace. In addition, both increasing the percentage of the credit and by harmonizing the Federal program with the Quebec program, particularly with respect to making the return fully refundable would continue to facilitate and enhance the SR&ED program. The provincial differences provide a noticeably greater effect upon the impact with which the tax incentives are applied as they are available for more immediate re-investment.

Within the Aerospace and Defense sector specifically, companies are required to invest heavily in internal R&D to maintain leadership positions. The SADI program in particular, helps to ensure that Canadian companies can compete with companies in other countries that are receiving R&D incentives; however, the program funding levels and its funding mechanisms do fall short when compared with incentive programs in the US and Europe. Moving SADI to a partially-refundable incentive program would increase its accessibility and impact as would re-evaluating the program to better balance risk-sharing. SADI is presently structured to ensure that there is little to no risk being taken on the part of the Government with respect to the commercial viability of the products created.

In addition, the SADI program is presently structured to address a traditional Aerospace business model whereby aircraft and aircraft part manufacturers expend significant financial resources to develop a first prototype which is then replicated and sold at high production volumes. This type of SADI program is less suitable for companies such as



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CAE that develop technology-rich products which are combined together to create many variants that are then produced in low-volume. In CAE's business model costs are incurred throughout the entire development cycle which includes the initial creation of the individual products themselves, their evolution during the development stage, their integration together and the commercialization of the resultant product. Therefore, if Aerospace and Defense is to be recognized as a National Priority, then the SADI program which is the incentive program related to this priority must be modified and improved in order to address risk-sharing and the noticeable differences across companies within the sector.

In addition to SR&ED and SADI, additional programming that increases Canadian competitiveness through incentives for business process innovation and operational effectiveness would further strengthen Canada's position with respect to other countries.

Innovation [Questions 1, 2, 6, 15].

Literature and practice indicate that innovation and R&D are different, particularly in consideration of the way in which the Canada Revenue Agency defines R&D under the SR&ED Program. Innovation is largely viewed as a change in the thought process for doing something, or the useful application of new inventions or discoveries. Such changes therefore, are not limited to technology, but in thinking, products, processes or organizations. SR&ED, on the other hand is one aspect of how to achieve innovation through technological means.

The Government should focus equally on innovation and R&D, the two often being linked together and the two equally capable of deriving economic impact. The SR&ED program, for example, could be expanded to include scope for technological innovation, and/or a program unique to innovation could be raised whereby the concept of incentive for innovation should not be bound by a link to technological advancement, but can encompass changes made in relation to business development, processes, service-oriented delivery and support the commercialization of these advancements by making eligible the costs of new product introduction.



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Under this new program, and even under SR&ED, the concept of Government as “first customer” is critical. If the Government intends to increase focus and encourage spending in activities surrounding innovations, creating stronger partnerships with companies is necessary. For example, greater consideration could be placed on Canadian technologies during procurements provided that both quality and price are fair and competitive.

Conclusion

The Aerospace and Defense Industry plays an important highly strategic role for Canada not only with respect to providing technology leadership in a global economy, but also in terms of the quality of life for Canadians as employers of highly skilled resources in the high technology field.

Given that there is a trend to increase government-Industry collaboration in other countries, the role that the Canadian Government chooses to play with respect to Aerospace and Defense is significant. In order to allow for companies such as CAE Inc. to compete on a level playing field, the Government must do more.

Actions undertaken by the Government such as significantly improving incentive programs such as SADI to more appropriately allow companies in the Aerospace and Defense sector with non-traditional business models to derive economic benefits that are more in line with the actual type and magnitude of cost incurred, modifying the SR&ED program to a fully refundable program and adding new programs to address innovation are critical to keeping Canada in a world leadership position.

A handwritten signature in black ink, appearing to read "N. Bourque".

Nathalie Bourque
Vice President, Public Affairs and Global Communications
CAE Inc.