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DEPARTMENT OF NATIONAL DEFENCE:

SPACE POLICY

OVERVIEW

1. In the Report of the Standing Committee on Research, Science and Technology, tabled in June, it was noted that this year marked the twenty-fifth anniversary of the launch of our first earth satellite, Alouette I. Canada became the third nation to establish a presence in space, after the USSR and the US. And the country and its Space Program have not looked back.

2. The Department of National Defence (DND) has also had a long and continuing interest in the application of space technology to its military operations. For example, the Search and Rescue (SAR) mission of the Canadian Forces, which grew out of wartime needs, is greatly enhanced through the SAR satellite project (SARSAT) which in turn has improved our ability to respond to aircraft and ships in distress with a subsequent saving of lives. Space systems have also been integral to military communications networks, and have shown their effectiveness for area surveillance.

3. Departmental policy has been to use space technology to meet defence requirements when it is advantageous and cost-effective. Advances in space technology and the changing nature of the Soviet threat have made it timely for DND to clarify its strategy with respect to the development of space-based and space-related assets, capabilities and activities. This paper outlines the Department's policy as it pertains to the application of space technology to Canadian military operations.

POLICY PRINCIPLES AND GOALS

4. The following policy principles were established over a decade ago and still apply:

- DND space policy will be developed within the framework of existing Canadian policies on space;

- DND should make use of space technology whenever analysis reveals that it is the most reasonable and most cost-effective way to achieve its objectives;

- DND needs to acquire and maintain a high level of technical awareness, backed by a significant level of technical and operational expertise in the space field; and

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- while adhering to government procurement policy, DND should take cognizance of the possible advantages of participation in bilateral and/or international space activity.

- DND should realize that insufficient Canadian involvement in space activity might impose severe constraints on the range of future military options to the possible detriment of Canadian security and sovereignty interests; (It might be argued today that insufficient involvement will impose constraints to the detriment of our security);

- The nature of DND space activity must take cognizance of the fact that major launch vehicles and facilities will probably have to be procured from foreign sources and that this will involve a finite and possibly significant element of political risk;

- wherever possible, DND should be prepared to coordinate and integrate its space activities with those of other government departments;

- while adhering to government procurement policy, DND should take cognizance of the possible advantages of participation in bilateral and/or international space activity; and

- DND should participate at the interdepartmental level in the development of a space strategy which will ensure that Canadian interests in and ability to exploit space through applicable programs are furthered through international agreements.

5. The principal goals of DND space activity are intended to enhance the realization of our defence commitments by using space technology whenever appropriate and cost-effective; to enhance the peaceful uses of space; and to contribute to the Canadian economy.

AREAS OF INTEREST

6. Over the past years, the Department has continued its interest in certain specific areas. These are surveillance, communications, navigation, search and rescue, meteorology, oceanography and cartography; and manned space activity. Each of these areas, and some others, are described more fully below.

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7. Research (and possible development) of ballistic missile defence (BMD) and related systems are also areas of vital interest to Canada and DND must be capable of monitoring events closely and advising the Government. However, as indicated in the June White Paper on Defence, the Department will concentrate its activities on the broad areas and interest outlined above.

8. Research and Development. The Department's research and development concentrates primarily on the six areas of specific interest with the objective of providing better ways for the Canadian Forces to carry out their missions and of encouraging, in accordance with Government policy, cooperative defence R&D space projects between Canada, the US and other allies. A secondary objective of R&D is to assist in the transfer of these technologies to Canadian industry, where the end result would contribute to the production of military capability.

9. Space-Based Surveillance (Atmosphere, Land, Sea and Undersea) DND pursues the development of a secure space-based capability which would provide the capability to:

a. detect, track, identify and assist in the interception of aircraft and cruise missiles as an improvement to or as a successor system(s) to those currently proposed for air defence modernization;

b. conduct surveillance of Canada's maritime approaches and provide the capability to detect, identify, track and localize surface vessels and submarines;

c. conduct surveillance of Canada's remote/Arctic land areas and ice-covered waters to detect, identify and localize unauthorized intrusions; and

d. contribute to the collection of intelligence world-wide.

In addition, the Department seeks to maintain the capability to detect, track and identify space objects passing over Canadian territory or operating close to Canadian or allied satellites.

10. Communications. The Department aims to have a satellite communications capability which will provide strategic and tactical secure communications to Canadian sea, land and air forces worldwide and interconnection to allied communications systems.

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11. Navigation. By participating and contributing to national and international space programs (such as NAVSTAR/GPS) the Department can acquire such equipment which will enhance Canadian Forces navigational capabilities. (Other Canadian users could, of course, also benefit.)

12. Search and Rescue. As already noted, our participation and contribution to national and international space programs (such as SARSAT), enhances Canadian capability to respond to search and rescue accidents/incidents in a timely manner and to assist other interested nations to acquire a similar space-based rescue system.

13. Meteorology, Oceanography and Cartography. The department's contributions to national efforts to utilize space systems for the collection and dissemination of meteorological and oceanographic data and the utilization of cartographic data for mapping, particularly that of defence interest.

14. Manned Space Activity. Finally, as part of the overall Canadian Space Program, DND maintains an awareness of the military application of manned space flights. A medium to long-term objective is to ensure that sufficient DND and CF personnel are selected, trained and available for employment in manned space activity.

15. Obviously, training is an important component of the Department's space policy. Hence, efforts are made to provide for participation of selected personnel for attendance at academic institutions offering specialization in space sciences, astrophysics and related courses. Training must also include CF familiarization and professional development training in space systems, and development of space-related training in basic and advanced in-service courses.

CONCLUSION

16. In the pursuit of military space capabilities, the Department maintains close cooperation with the Ministry of State for Science and Technology, other government departments and the new Canadian Space Agency to ensure that its long-term development plans are consistent with other government and industry space plans and programs. A national space policy undoubtedly must include national security aspects. DND supports the closest practicable coordination and cooperation between civil and defence space activities. However, considerations of national security and the sensitivities of our allies make it essential that defence space activities and projects be planned, managed and executed under DND control separately from the civil space program.

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17. As described in the White Paper on Defence, "space will increasingly be utilized in support of national defence aims. Canada's priorities for military space activity - surveillance, communications, navigation and search and rescue - flow naturally from our geography. Parliamentary committees of both the Senate and the House of Commons have in recent years recommended that Canada establish a national military space program.

18. The challenge and opportunity are there. The department's space policy is designed to coordinate and focus its activities in order to achieve the specific objectives outlined above and described in the White Paper. These activities, based on long-term Canadian security interests, also recognize and reinforce the contribution that military space projects can make to the economic and industrial growth of high technology which is in the Canadian national interest.