

SOME CURRENT ISSUES IN PROVIDING
DEFENCE SCIENTIFIC AND TECHNICAL INFORMATION

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ABSTRACT

The Directorate of Scientific Information Services (DSIS) of the Chief, Research and Development Branch (CRAD) of the Department of National Defence (DND) acts as the DND central agency for recording the existence of Scientific and Technical documents dealing with defence research and development, and distributing these documents within DND and to allied countries.

Within this mandate, the current role and information policies of DSIS will be examined in connection with other DND Directorates with respect to:

- the DND interface with the Canadian defence industry; and
- proposed legislation concerning public access to government documents.

LA QUESTION DE FOURNIR DE L'INFORMATION

SCIENTIFIQUE ET TECHNIQUE SUR LA DEFENSE

RESUME

Le Conseil d'administration du service d'information scientifique et technique (DSIS), faisant partie de la Branche chef, Recherche et développement (CRAD) du Ministère de la Défense Nationale (DN) est l'agence centrale pour le ministère pour enregistrer les documents scientifiques et techniques ayant trait à la recherche et au développement de la défense, et aussi pour distribuer ces documents parmi le ministère et aux pays alliés.

Dans ce mandat, on examine les politiques d'information et le rôle actuel de DSIS par rapport à d'autres conseils d'administration en ce qui a trait à:

- la DN par rapport à l'industrie de la défense canadienne;
- la législation proposée au sujet de l'accès par le public aux documents du gouvernement.

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INTRODUCTION

Canada is one of 15 nations which belong to the Atlantic Alliance, NATO. NATO's potential adversary is the Warsaw Pact, a group of nations led by the USSR.

Since World War II, applications of science and technology in the Armed Forces of both the Warsaw Pact and NATO have become common. During these relatively peaceful years, much change has occurred. Consider, for example, the following technological developments:

- Missile systems that can deploy and deliver nuclear warheads several hundred times more powerful than either the one that fell on Nagasaki or on Hiroshima, Japan, in World War II;
- Submarines that can launch ballistic missiles from quiet sorties under the polar ice of near coastlines;
- Satellites that can take pictures in visible or infrared imagery from above any part of the globe;
- Electronic warfare which can jam an aircraft's radar or communication links;
- Lasers which can shoot down missiles, although not known to be in production, are in an advanced stage of development.

These are some of the developments which have taken place since World War II and are available to either alliance. In and around Europe, there are hundreds of ships, thousands of tanks and aircraft, and millions of men available for war on either side as well.

It is in this climate that the generation of new military scientific research, and the scientific and technical information that goes with it, plays a vital part in maintaining the military and/or technological superiority necessary for NATO defence.

Where Defence STI is Produced

In the Department

Many parts of the Department produce STI. First, and primarily, there are the six Defence Research Establishments located strategically throughout Canada, and the Operations Research Analysis Establishment situated in Ottawa. Secondly, there are the Test Establishments, such as Aerospace Engineering Test Establishment in Cold Lake, Alberta, which provide engineering information such as test data on the New Fighter Aircraft. Thirdly, there are the Military Colleges of RMC, CMR and Royal Roads who produce academic reports. Fourthly, there are the Canadian Forces Schools, such as the Air Navigation School in Winnipeg. Reports are generated from the course work given at the schools.

Outside of the Department

The Department of National Defence establishes contracts with other government departments and agencies for R&D of interest to it. Such examples include radar work done at the Department of Communications, Communications Research Centre, and aeronautics R&D done at the National Aeronautical Establishment, NRC. Moreover, it is Canadian Government policy to contract some of federal R&D work to private industry. The following companies have, or have had, access to DSIS services to support their R&D for the Department.

In the Aerospace Field -- Canadair, deHavilland, Spar Aerospace, Litton Systems, and Pratt and Whitney Aircraft, in the ordnance and small arms field -- Diemaco Inc., Canadian Arsenals Ltd., Valcartier Industries Ltd.; in the electronics field -- Leigh Instruments, Computer Devices Co. Ltd., Bell-Northern Research, Canadian Marconi, Westinghouse Canada; and in the ship building and acoustics areas -- Hermes Electronics, Sparton of Canada, St. John Dry Dock, and Scan Marine.

This is an incomplete list but it does give an idea of the variety and scope of DND industrial activities.

Universities are involved to a lesser extent.

Canada, however, generates only about 3% of the world's STI, and much less so in the defence field, so by far the most important source of defence STI rests with the NATO and Commonwealth countries Canada is allied with. In practice, it is found that the United States produces most of the research of interest to Canada. Our second most important source of Defence STI is the U.K. with other sources being Australia, the Federal Republic of Germany, the Netherlands, and other NATO countries.

How Information is Presently Released

The exchange of scientific and technical information between the Research and Development Branch (CRAD) and its counterparts in allied countries provides an essential complement to Departmental research.

Much valuable information is exchanged before it appears in print, by discussion between individuals and by presentation of papers at meetings. Although DND scientists are active in these types of communications they also contribute to, and rely on, printed information, such as reports.

Defence reports produced by government employees belong to the government just as in industry the products of an employee belong to the employer. Government produced defence reports are consequently national resources and their distribution is subject to a national policy. International agreements on the exchange of information have been entered into, some on a bilateral basis, others on a multilateral basis. The exchange of defence documents, whether classified or unclassified, is subject to the terms of these agreements. The conditions of release are predetermined by these agreements and may not be changed by the agencies involved in the exchanges. Other terms of the agreement may be broader and phrased to permit considerable latitude in interpretation (Ironsides, 1972).

Governments maintain release agencies whose function it is to interpret the terms of the agreements in the light of the current national policy. The same national policy also governs the setting of security standards and responds to changes in the international scene (Ironsides, 1972).

Information exchanges with other countries, no matter how friendly, or how similar their cultures and aims may be, are nonetheless negotiations with foreign countries. Those taking part in these negotiations represent their government as well as the particular agency in which they are employed. Establishing and renewing contacts is a continuous activity.

Release Criteria

The main criteria for releasing information are that the recipient has a "need-to-know", a capability of using the information effectively, and a willingness to protect it adequately; also that the donor may gain some benefit from its release. This benefit may include increased awareness of the recipient country's research, and possible collaboration.

Channels

In DND, the channels for documents coming to Canada are through the Canadian Defence Liaison Staffs in London and Washington, and the Defence Research Attaché in Paris. Canadian Forces attachés assume this responsibility in other countries. DSIS is the official DND agency to release, receive, accession, store, and retrieve these reports in Canada.

Why the Department Classifies

It follows from the foregoing that the reason the Department classifies some of its reports is to prevent information prejudicial to the defence of Canada, or any of its allies, from falling into the wrong hands. Thus, the Department has a number of security measures which it employs to prevent this from happening.

DSIS Services to Canadian Industry

Many Canadian industries have taken advantage of the federal Government's "contracting out" policies for research and development and thus have an interface with DND. In order to obtain defence scientific and technical information through DSIS, however, these companies must have a defence contract negotiated through DSS -- and a "need-to-know". The "need-to-know" statement is frequently a synopsis of the company's contract with the Department and is offered as justification for release of a particular document from the Department to the company. Thus, a very important principle emerges: companies must not only have personnel who are security-cleared and secure storage facilities and practices in order to receive classified documents, but they must also have an operational need (need-to-know) for the document.

To gain access to the services of DSIS the companies complete a standard government form which traces the adherence by the company to government security policy through the Industrial Security Division of DSS, to DND's Directorate of Security, on to DSIS where a list of accredited companies updated monthly is kept. It is DSIS policy to check when access through this procedure expires and inform the company or terminate service.

DSIS services which are offered to "qualified" industrial contractors essentially fall into three categories of information services (Ross, 1978):

- The ordering of defence-related STI reports from foreign countries, or the provision of the same from DSIS holdings; and

- The initiation and monitoring of current awareness or SDI Services in specific subject areas of the industry's defence interest; and
- The carrying out of retrospective searches on the DSIS
- RETRO data base, or the compilation of bibliographies of DSIS holdings. The aim of each of these services is the provision of relevant STI to the industry within the constraints of its contract. Thus, if an industry had only contracts on small arms ammunition, DSIS would not send documents on anti-submarine warfare.

DSIS services to industry do not include open literature searching such as CAN/OLE, Dialog and ORBIT Systems, although we have the capability to search all of these systems, and do so for all DND users who do not have their own terminals.

Proprietary Rights and Technological Transfer

The review of proprietary rights and technological transfer falls within the mandate of the Directorate of Technology Transfer and Exploitation, not DSIS, in DND (Clark, 1982).

According to NATO definitions, the subject of inventions, patents, and technical "know-how" is included in the definition of rights. Intellectual property includes concepts and finished packages (manufactured goods and procurement) -- all of these produced by work carried out under contract paid for by DND are the property of the Crown. It is government policy to protect its proprietary rights to work done under contract, and to transfer to Canadian industry some of the developments realized by its laboratories. Companies are now being encouraged to declare their rights before beginning work on a project and to have them detailed in contracts.

From the intellectual point of view, inventions and applications (including non-DND applications) are the product of the contract. Some non-Defence applications may result because some products are not aimed directly at a Canadian Forces item. The Government's policy is to transfer non-defence application packages to Canadian Patents and Development Ltd. who then can promote the use of these products. CPDL acts as a licencing agent. Hydrophones are an example of such a product.

By contrast, the CRV 7 rocket will become a Canadian Forces defence inventory item so the design rights rest with the Minister of National Defence and are not transferred to CPDL. The licence for manufacture for export sale by Bristol Aerospace of Winnipeg is handled by DND.

A Letter of Intent is issued by DND to meet requests by industry to exploit commercially items for foreign sale. This Letter of Intent is issued by DND under the Minister's name to allow industry to obtain a licence for the item manufactured in contract by the industry.

There is a maximum of 10% royalty on the price of the product, but this can be adjusted. This is compensation to the Crown for inventing the item. Present thinking is that Canada has not been recouping costs; DND now wants to recoup these costs. This is a subject to be negotiated between DND and the company. The problem is to evolve a DND mechanism to get the maximum benefit in recouping R&D costs.

Release of Information to the General Public

Requests for information may come to any one of several officers in the Department. Requests that are for technical information are passed from NDHQ Inquiries to the most knowledgeable officer in the Research and Development Branch, and many kinds of inquiries have been answered, including some from various lobby or special interest groups. (Koop, 1982).

What this means to DSIS

DSIS has become involved to the extent that it will provide documents that will help support the Department's response to the public. Sometimes, however, more is involved and if particular expertise exists in DSIS, ministerial inquiries, such as the type mentioned, have been sent for response by DSIS. DSIS may therefore prepare bibliographies, provide abstracts, or comments on bibliographies.

How DSIS Differs from a Traditional Library

Throughout the foregoing, you may have suspected something; DSIS is not a traditional library. The fact that information is protected -- i.e., the secure mode of operation -- has caused a number of constraints to be placed on DSIS. For example, during fire alarm drill, there is often a mad dash to lock up papers and documents; as well, although DSIS has planned earlier to move to another location, the planned move did not take place because of security considerations. Then again, DSIS personnel all have security clearances which are reviewed at intervals by the Department. These are the type of things that are the stuff of John Forsythe and "Smiley's People", although the fact should not be

exaggerated. The point is DSIS is different; it is not only what we communicate but it is to whom we communicate and why.

The New Access to Information Legislation

Bill C43, the Access to Information Legislation will necessarily result in a shift in the Department's philosophy, if enacted.

First, the proposed legislation states that it is a Canadian citizen's right to see much of our information (Draft Instruction, 1981). The fact that a document may be classified or limited will not necessarily prevent a citizen from access. Rather, an "injury test" will be done to the document. That is, each request will be examined to see if release would cause harm to Canada's defence, or the defence of her allies. This procedure would apply to anything that is a departmental record, but would not include those documents which have been provided to Canada under another country's restrictions. Thus, it will now be up to the Department to comply with an individual's request, if possible. However, each request must be explicitly identified in writing.

If and when the legislation is passed, an Information Commissioner will be employed to handle complaints from the Public and if a dispute arises, the issue will be sent to the Federal Court which can order the release of a document by DND.

To prepare for this change, DND has an approved draft instruction and a cell in NDHQ Inquiries to centralize all requests. Regardless of where a request occurs it will be forwarded as quickly as possible to this directorate before it is staffed for response. NDHQ Inquiries will review the request to ensure it is clear and complete, and pass it to Command Headquarters or the NDHQ Directorate most knowledgeable on the subject in the request. The Command HQ or Directorate will in turn locate the record, examine it, and pass it to NDHQ Inquiries along with a recommendation as to whether or not it should be released.

Through an appropriate group or command sign-off sequence the record will return to NDHQ Inquiries for release, or notification to the requestor of denial of access. At this point, the response may involve the Deputy Minister and/or the Chief of Defence Staff, and if necessary, legal advice may be obtained from the Judge Advocate General.

As with other Departments, DND has been asked to ensure that its records are in order and contribute to a public access to information register. Part of the requirement is to register a number of Directorates to demonstrate to the public who does what in DND. Both file holdings and publications covering the scope of

DND's activities and programs will be registered. Future activity will be to brief Command HQ and NDHQ Staffs and to run a few practice sessions.

The Impact of the Legislation on DSIS

One possible result of the enacted legislation on DSIS would be to diversify our user group. The legislation might result in increased volume of requests from the general public; however, this may take some time to develop.

Secondly, if regular declassification is introduced, DSIS may become involved in changes to our records. A similar problem would occur if we begin to receive more documents which have been classified paragraph by paragraph instead of as a general cover.

Thirdly, there is the issue of whether our data base must remain classified. If it could be declassified, we could eliminate the need for searching in a secure environment which would relieve many inconvenient situations, and we could make it more generally available, possibly through DATAPAC.

By contrast, if it must remain classified we will not be able to offer it more widely and many of the present constraints will remain.

Fourthly, foreign release conditions may have to be renegotiated.

And in general, with the passage of the legislation, there will be a major change in attitude.

CONCLUSION

In conclusion, I have tried to present a picture of the present constraints of DSIS services to industry and the general public, while at the same time allowing for the impact of the proposed legislation on DSIS operations. It is an interesting road we are travelling; I hope you have caught some of our enthusiasm.

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