

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
DEPARTMENT OF DEFENSE
OF THE UNITED STATES OF AMERICA
AND THE
DEPARTMENT OF NATIONAL DEFENCE
OF CANADA
CONCERNING
DEVELOPMENT, DOCUMENTATION,
PRODUCTION AND INITIAL FIELDING OF
MILITARY SATELLITE COMMUNICATIONS
(MILSATCOM)

Dated 16 November 1999

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INTRODUCTION

The Department of Defense (DOD) of the United States of America and the Department of National Defence (DND) of Canada, hereinafter referred to as the "Participants:"

Having a common interest in defense;

Recognizing the benefits to be obtained from rationalization, standardization and interoperability of military equipment;

Seeking to make the best use of their respective research and development capacities, eliminating unnecessary duplication of work and obtain the most efficient and cost-effective results;

Recognizing the need to collectively develop emerging technologies to field technologically superior Military Satellite Communications (MILSATCOM) systems;

Having a mutual need for increased capacity on future MILSATCOM systems to satisfy common operational requirements;

Invoking the Agreement Between the Government of the United States of America and the Government of Canada Concerning the Establishment of Certain Mutual Defense Commitments, signed August 19, 1994;

Have reached the following understandings:

SECTION I

DEFINITIONS

The Participants have decided upon the following definitions for terms used in this Memorandum Of Understanding (MOU):

AEHF Program	A DOD MILSATCOM program to develop and field an Advanced Extremely High Frequency (AEHF) system which provides highly protected communications for strategic and tactical warfighters. These communications are characterized by jam-resistance, low probability of detection and intercept, hardening, and anti-scintillation.
Apportionment	The AEHF resources provided to US Commanders in Chief (CINCs) to plan, manage, and operate for the purpose of fulfilling their mission requirements.
Assured Access	The certainty that the agreed upon amounts of MILSATCOM resources are immediately available and accessible for the user when and where needed in accordance with this MOU and the Annex(es) thereto. Assured Access does not include loss of communications due to jamming, weather or atmospheric effects.
Baseline Apportionment	The AEHF resources allocated through the apportionment process, and guaranteed in the MOU and any Annex(es) thereto, that cannot be apportioned to other users of the AEHF system.
Classified Information	Official information that requires protection in the interests of national security and is so designated by the application of a security classification marking.
Contracting Agency	The entity within the government organization of a Participant, which has authority to enter into, administer, and terminate contracts.
Contracting Officer	A person representing a Contracting Agency of a Participant who has the authority to enter into, administer, and terminate contracts.
Contractor	Any entity awarded a contract under the Project by a Participant's Contracting Agency.
Controlled Unclassified Information	Unclassified information to which access or distribution limitations have been applied in accordance with applicable national laws or regulations. Whether the information is provided or generated under this MOU, the information will be marked to identify its "in confidence" nature. It could include information which has been declassified, but remains

	controlled.
Defense Purposes	Manufacture or other use in any part of the world by or for the armed forces of either Participant.
Designated Security Authority (DSA)	The security office approved by national authorities to be responsible for the security aspects of this MOU.
Ground Segment	<p>Any component of the communications planning, network/resource control, or terminal segments as defined below:</p> <p><i>Communications Planning:</i> The off-line planning of satellite and terminal resources for the purposes of allocation and optimization of user network requirements.</p> <p><i>Network/Resource Control:</i> The on-line operational management of the aforementioned resources to ensure effective and continuing user communications within satellite, system, and operational constraints.</p> <p><i>Terminal Segment:</i> The electronic and radio frequency equipment which provides point-to-point or networked satellite communications between users. The terminal segment includes terminals hosted on aircraft, ships and submarine platforms, installed at fixed sites and in ground mobile and transportable configurations, and packaged as man-portable units. Terminals are designed to operate in a specified frequency band(s).</p>
Patent	Legal protection of the right to exclude others from making, using, or selling an invention. The term refers to any and all Patents including, but <i>not limited to</i> , Patents of implementation, improvement or addition, petty Patents, utility models, appearance design Patents, registered designs, and inventor certificates or like statutory protection as well as divisions, reissues, continuations, renewals, and extensions of any of these.
Program Manager	Individual assigned to lead a DOD MILSATCOM acquisition program.
Project	The cooperative effort by the DOD and the DND to jointly develop, produce, and field modifications to the AEHF satellite system to increase capacity, above the capacity funded by the DOD, to meet DOD and DND national needs. This effort is a subset of the AEHF Program.
Project Background Information	Information not generated in the performance of the Project.

Project Equipment	Any materiel, equipment, end item, subsystem, component, special tooling or test equipment jointly acquired or provided for use in the Project.
Project Foreground Information	Project Information generated in the performance of the Project.
Project Information	Any information provided to, generated in, or used in the Project regardless of form or type.
Project Invention	Any invention or discovery formulated or made, either conceived or first actually reduced to practice in the course of work performed under the Project. The term "first actually reduced to practice" means the first demonstration, sufficient to establish to one skilled in the art to which the invention pertains, of the operability of an invention for its intended purpose and in its intended environment.
Project Manager	Individual assigned to manage the Project.
Project Team Leader (PTL)	Individual assigned to lead the DND MILSATCOM acquisition project.
Protected Constellation	Constellation which consists of the remaining Milstar I and II satellites and the AEHF satellites.
Then-Year Dollars	Then-Year dollars represent amounts that will be paid for resources in the actual years in which payments will be made. A Then-Year dollar contains implicit adjustment for variation in the purchasing power of a dollar over time.
Third Party	A government other than the government of a Participant and any person or other entity whose government is not the government of a Participant.

SECTION II

OBJECTIVES

2.1. The objectives of the MOU are:

2.1.1. To cooperate on portions of the development, documentation, production, and initial fielding of future MILSATCOM systems, and to share the increased capacity delivered as a result of this cooperation in accordance with the provisions of this MOU and in accordance with Annex(es) to this MOU.

2.1.2. To establish technical and operational interoperability requirements and determine the means to meet these requirements during development of MILSATCOM systems in accordance with an Annex to this MOU.

2.1.3. To apportion satellite resources on the AEHF system for the DND in accordance with Annex A of this MOU.

2.1.4. To develop a follow-on MOU for cooperation on the operations and maintenance of the AEHF system (the "O&M MOU"). The apportionment of satellite resources set out in Annex A is based on the understanding that the DND will contribute equitably to the operations and maintenance of the system **and** will be set out in the O&M MOU.

2.1.5. To set the basis for long-term cooperation in MILSATCOM that is mutually beneficial.

2.2. This MOU does not preclude the Participants entering into any other bilateral or multilateral arrangements in the area of MILSATCOM systems.

SECTION III

SCOPE OF WORK

3.1. Implementation of this MOU will be through Annexes to this MOU. Annex A sets out the details for AEHF cooperation. The overall work to be undertaken under this MOU, as implemented by Annex(es) to this MOU, includes, but is not limited to the following:

3.1.1. Under DND lead, providing Canadian technical expertise in areas such as antennas, filters, routers, multiplexers, frequency converters, and other subsystems to achieve greater performance of MILSATCOM systems.

3.1.2. Developing the technical and operational requirements and solutions to enable DOD and DND users of MILSATCOM to be interoperable.

3.1.3. At DND's request, and in accordance with Section V (Financial Arrangements) and Section VI (Contractual Arrangements), the procurement by DOD of Ground Segment resources to satisfy DND requirements. Associated costs will be borne by the DND.

3.1.4. Making modifications to increase resources to satisfy Canadian national requirements while providing additional capability to DOD users. System description and resource sharing provisions for the AEHF system are detailed in Annex A.

3.1.5. Under DOD lead, with DND collaboration, developing, documenting, procuring, and initially fielding the Project to meet national and coalition requirements.

3.1.6. Under DOD lead, performing systems engineering on the Project to ensure national and interoperability requirements are met.

3.1.7. Performing comprehensive testing of Project components to ensure performance standards are met and the components will meet requirements. Resolution of anomalous satellite behavior will be conducted as set out in Annex A, Section 3.0, Resource Sharing Provisions.

3.2. Any cooperation between the DOD and the DND on future MILSATCOM systems will be subject to the negotiation and conclusion of satisfactory provisions either by an amendment to this MOU or by a separate arrangement.

SECTION IV

MANAGEMENT (ORGANIZATION AND RESPONSIBILITY)

4.1. The Project will be directed and administered on behalf of the Participants by an organization consisting of a Steering Committee (SC), and a DOD/DND Project Office (DPO) headed by a Project Manager. It is envisioned that DPO members will not be co-located, but will execute their duties from their respective host nation organizations. The SC will have overall authority over the Project Manager, in accordance with this MOU. The Project Manager will have primary responsibility for effective implementation, efficient management, and direction of the Project in accordance with this MOU.

4.2 The SC will consist of a representative appointed by each Participant. The SC will meet annually with additional meetings held at the request of either representative. Each meeting of the SC will be chaired by the representative of the Participant hosting the meeting. Decisions of the SC will be made unanimously. In the event that the SC is unable to reach a timely decision on an issue, each SC representative will refer the issue to its higher authority for resolution. In the meantime, the approved Project plan ("Project Plan") will continue to be implemented without interruption under the direction of the Project Manager while the issue is being resolved by higher authority.

4.3. The SC will be responsible for:

4.3.1. Exercising executive-level oversight of the Project.

4.3.2. Approving the Project Plan which provides a description of the Project's delivery requirements and milestones.

4.3.3. *Reviewing progress in meeting the additional system requirements resulting from this MOU.*

4.3.4. Financial oversight of the Project to ensure compliance with the provisions of Section V (Financial Arrangements) and approving the financial management procedures document and amendments thereto.

4.3.5. Resolving issues brought forth by the Project Manager, Program Manager(s), or Project Team Leader.

4.3.6. Maintaining oversight of the security aspects of the Project, including reviewing and obtaining approval from the appropriate Designated Security Authorities (DSAs) of a Project Security Instruction and a Classification Guide prior to the transfer of Classified Information or Controlled Unclassified Information.

4.3.7. Reviewing and forwarding to the Participants for approval recommended amendments to this MOU in accordance with Section XVII (Amendment, Termination, Entry Into Effect, and Duration).

4.3.8. Approving amendments to Annexes to this MOU consistent with Section XVII (Amendment, Termination, Entry Into Effect, and Duration).

4.3.9. Approving plans to manage and control the transfer of Project Equipment provided by either Participant to support the execution of the Project in accordance with Section VIII (Project Equipment).

4.3.10. Approving plans for the disposal of jointly acquired Project Equipment under this MOU in accordance with Section VIII (Project Equipment).

4.3.11. Monitoring Third Party sales and transfers authorized in accordance with Section XIII (Third Party Sales and Transfers).

4.3.12. Reviewing the semi-annual status report submitted by the Program Manager(s) and Project Manager.

4.3.13. Approving the duties and responsibilities of cooperative project personnel assigned to the DPO or other facilities contributing to the Project.

4.4. The USAF will appoint the Project Manager, who, as head of the DPO, will be responsible for implementing this MOU and its Annexes and for day-to-day management of the Project. Specifically, the Project Manager, assisted by the Project Team Leader or his/her designated representative, will be responsible for:

4.4.1. Managing the cost, schedule, performance requirements, technical, and financial aspects of the Project.

4.4.2. Preparing a financial management procedures document which establishes the detailed financial management procedures under which the Project will operate. These procedures, which must accord with the national accounting and audit requirements of the Participants, will be subject to the approval of the SC.

4.4.3. Implementing the financial aspects of the Project in accordance with Section V (Financial Arrangements) and the financial management procedures document.

4.4.4. Referring issues to the SC that cannot be resolved by the Project Manager.

4.4.5. Developing and recommending to the SC amendments to this MOU.

4.4.6. Developing and implementing SC-approved plans to manage and control the transfer of Project Equipment provided by either Participant in accordance with Section VIII (Project Equipment).

4.4.7. Developing and implementing SC-approved plans for the disposal of jointly acquired Project Equipment under this MOU in accordance with Section VIII (Project Equipment).

4.4.8. Providing a semi-annual status report to the SC.

4.4.9. Exercising configuration management during AEHF satellite development.

4.4.10. Exercising software management during AEHF satellite development.

4.4.11. Developing a Project Security Instruction and the Classification Guide.

4.5. In furtherance of the Project, the DOD and the DND may assign qualified personnel to each others' organizations contributing to the Project. Such personnel will be integrated into a program/project office of the other Participant and carry a portion of the workload associated with the Project. The Project Manager and Program Manager(s) will be given an opportunity to interview prospective DND personnel and may decline the assignment. The Project Team Leader will be given an opportunity to interview prospective DOD personnel and may decline the assignment. Provisions for personnel assigned to organizations of the other Participant are set out in Annex B, The Exchange of Cooperative Project Personnel.

SECTION V

FINANCIAL ARRANGEMENTS

5.1. Each Participant will contribute its equitable share of the full costs of the Project, including overhead costs, administrative costs, and costs of claims, and each Participant will receive an equitable share of the results of the Project, in accordance with the provisions of this MOU.

5.2. All dollar references in this MOU are US Then-Year Dollars.

5.3. The Participants estimate that the financial responsibilities under this MOU will be approximately \$3.678B. The DOD target contribution will be \$3.532B. The DND contribution will be \$146.2M. The DND contribution may not be changed, except upon the written agreement of the Participants. The Participants will use their best efforts to perform, or to have performed, the work specified in Section III (Scope of Work) and fulfill all the responsibilities under this MOU, within the amounts specified.

5.3.1. The costs will be shared as follows:

	<u>Participant</u>	<u>Percentage Share</u>
5.3.1.1. AEHF	DOD	95.7%
	DND	4.3%

5.4. Each Participant will make funds available in such amounts and at such times in accordance with the estimated schedule of financial contributions as described in the financial management procedures document. This document will include an estimated financial schedule for financial contributions which will be consistent with the funding requirements of paragraph 5.3..

5.5. The Participants recognize that it may become necessary for the DOD to incur contractual or other obligations for the benefit of the DND prior to receipt of DND funds. In the event that the DOD incurs such obligations, the DND will make funds available in such amounts and at such times as may be required by the terms of the contract or other obligation and will make them available in advance of the time such payments are due.

5.6. The following costs will be borne entirely by the Participant incurring the costs or on whose behalf the costs are incurred:

5.6.1. Costs associated with national representation at meetings.

5.6.2. Costs associated with any unique national requirements identified by a Participant.

5.6.3. Any other costs not expressly stated as shared costs or any costs that are outside the scope of this MOU.

5.7. The Project Manager will be responsible for establishing the detailed financial management procedures under which the Project will operate. These procedures, which must accord with the national accounting and audit requirements of the Participants, will be detailed in a financial management procedures document prepared by the Project Manager and subject to the approval of the SC.

5.8. A Participant will promptly notify the other Participant if it does not have adequate funds to fulfill its responsibilities under this MOU. If a Participant notifies the other Participant that it is terminating or reducing its funding for the Project, both Participants will immediately consult with a view toward continuation on a modified basis. In the event that the Participants mutually conclude, following consultation, that continuation on a modified basis is not practicable, then the provisions of Section XVII (Amendment, Termination, Entry into Effect, and Duration) will apply.

5.9. Each Participant will be responsible for internal audit scrutiny of the Project activities carried out by it, in accordance with its own national practices.

SECTION VI

CONTRACTUAL ARRANGEMENTS

6.1. The DOD (acting through the Department of the Air Force) will be responsible for contracting for the Project in accordance with US contracting laws, regulations and procedures, including Federal Acquisition Regulation and Defense Federal Acquisition Regulation Supplement provisions specifically relating to Canadian products or contractors. The Contracting Officer is the exclusive source for providing contractual direction and instructions to Contractors.

6.2. The Program Manager(s) will be responsible for the coordination of activities relating to the Project, and will cooperate with the Contracting Officer(s) in the areas of contract procedures, contract negotiation, evaluation of offers, and contract award. DND may send representatives to the proposal evaluation team(s), subject to the approval of the source selection authority(ies). The Program Manager(s) will review statements of work prior to the development of solicitations to ensure that they are in accordance with this MOU. The DOD will provide the DND the opportunity to review statements of work related to the Project prior to development of solicitations. In addition, the Contracting Officer(s) will keep the Program Manager(s) advised of all financial arrangements with the prime Contractors.

6.3. The Contracting Officer(s) will negotiate to obtain the rights to use and disclose Project Information required by Section IX (Disclosure and Use of Project Information). The Contracting Officer(s) will insert into contracts (and require its Contractors to insert in subcontracts) suitable provisions to satisfy the requirements of this MOU, including Section IX (Disclosure and Use of Project Information), Section X (Controlled Unclassified Information), Section XII (Security) and Section XIII (Third Party Sales and Transfers). During the contracting process, the Contracting Officer(s) will advise prospective Contractors of their responsibility to immediately notify the Contracting Agency, before contract award, if they are subject to any license or agreement that will restrict their freedom to disclose information or permit its use. The Contracting Officer(s) will also advise prospective Contractors to employ their best efforts not to enter into any new agreement or arrangement that will result in restrictions.

6.4. In the event the Contracting Officer(s) are unable to secure adequate rights to use and disclose Project Information as required by Section IX (Disclosure and Use of Project Information), or is notified by Contractors or potential Contractors of any restrictions on the disclosure and use of information, the matter will be referred to the SC for resolution.

6.5. The Contracting Officer(s) will immediately advise the Program Manager(s) of any cost growth, schedule change, or performance problems of any Contractor for which the Contracting Officer(s) are responsible.

SECTION VII

WORK SHARING

7.1. The Participants will work toward the goal that the work to be performed under this MOU will be shared in proportion to the cost contribution of the Participants to the maximum extent possible, consistent with high technical merit, reasonable cost, and the need to achieve the timely, economical, and efficient execution of the Project. This work will encompass those requirements contained in Section III (Scope of Work) of this MOU that are common to the Participants and are funded under the Project.

7.2. Sources from both nations will be permitted to bid on Project work. Each Participant will encourage its industries to provide competitive opportunities to sources from the other nation to participate in the work of the Project, provided such participation does not adversely impact the Project.

7.3. No requirement will be imposed by either Participant for work sharing or other industrial or commercial compensation in connection with this MOU that is not in accordance with this MOU.