SCIENTIFIC COOPERATION

Agreement between
the UNITED STATES OF AMERICA
and SINGAPORE

Signed at Washington March 27, 2007

NOTE BY THE DEPARTMENT OF STATE

Pursuant to Public Law 89—497, approved July 8, 1966 (80 Stat. 271; 1 U.S.C. 113)—

". . .the Treaties and Other International Acts Series issued under the authority of the Secretary of State shall be competent evidence . . . of the treaties, international agreements other than treaties, and proclamations by the President of such treaties and international agreements other than treaties, as the case may be, therein contained, in all the courts of law and equity and of maritime jurisdiction, and in all the tribunals and public offices of the United States, and of the several States, without any further proof or authentication thereof."

SINGAPORE

Scientific Cooperation

Agreement signed at Washington March 27, 2007;
Entered into force March 27, 2007.

AGREEMENT BETWEEN THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF SINGAPORE ON COOPERATION IN SCIENCE AND TECHNOLOGY FOR HOMELAND/DOMESTIC SECURITY MATTERS

Preamble

THE GOVERNMENT OF THE UNITED STATES OF AMERICA AND THE GOVERNMENT OF SINGAPORE (hereinafter referred to as the "Parties"):

HAVING a mutual interest in research and development relating to homeland domestic security matters;

SEEKING to make the best use of their respective research and technology development capacities, eliminate unnecessary duplication of work and obtain the most efficient and cost effective results through cooperative activities;

DESIRING to increase the exchanges of information and personnel in areas pertinent to the identification of homeland/domestic security threats and countermeasures and the development of technical standards, operational procedures, and supporting methodologies that govern the use of relevant technologies;

STRESSING that physical and cyber-based critical infrastructures and other homeland/domestic security capabilities, both governmental and private, are essential to the operation and security of the Parties' respective economies and governments;

NOTING that the Parties' economies are increasingly interdependent, and that infrastructure protection and homeland/domestic security are of paramount concern to the Parties' respective governments;

BEING AWARE of research, development, testing, evaluation, development of technical standards and operations in both countries in chemical, biological, radiological, nuclear and explosive countermeasures and in other areas that could enhance homeland/domestic security;

RECOGNIZING a common desire to:

- expand the homeland/domestic security technology capabilities of each Party;
- minimise unnecessary duplication of work;
- obtain more efficient and cost-effective results; and
- adapt more flexibly to the dynamic threat environment

through cooperative activities that are mutually beneficial and that relate to the application of state-of-the-art and emerging security technologies, making best use of the Parties' respective research, development, and testing and evaluation capacities;

AFFIRMING a common interest in enhancing the longstanding collaborative efforts of the Parties' respective agencies, private sector and governmental organisations, and academic institutions in generating scientific and technological solutions to counter threats, reduce vulnerabilities, and respond to and recover from incidents and emergencies in those areas having the potential for causing significant security, economic, and/or social impacts;

DESIRING to set forth a vehicle for the conduct of cooperative scientific and technological research, development, testing and evaluation in the field of homeland/domestic security;

HAVE AGREED as follows:

ARTICLE 1

Definitions

For purposes of this Agreement between the Government of the United States of America and the Government of Singapore on Cooperation in Science and Technology for Homeland/Domestic Security Matters (the "Agreement"), the Parties have adopted the following definitions:

Agreement Director	Has the meaning given to it in Article 5 (Management) of this Agreement.
Business Confidential Information	Has the meaning given to it in Section IV of Annex 1 to this Agreement.
Classified Information	Official information that requires protection for national security, law enforcement, domestic security, or other reasons and is so designated by the application of the appropriate security classification markings in accordance with the national laws, regulations, policies, or directives of either Party or both Parties. It may be in oral, visual, magnetic, electronic, or documentary form, or in the form of Equipment and Material or technology. Classified Information under this Agreement shall be deemed to have the same meaning as "Classified Military Information" in the General Security of Military Information Agreement between the Government of the United States and the Government of Singapore, entered into force March 9, 1983.
Contract	Any mutually binding legal relationship under the national laws of either Party that obligates a Contractor to furnish supplies or services in relation to a Project Arrangement.
Contracting Agency	Any entity within the government organisation of a Party that has authority to enter into, administer, and/or terminate contracts.
Contractor	Any entity awarded or entering into a Contract on behalf of a Party in relation to a Project Arrangement.
Controlled Unclassified Information	Information that is not Classified Information, but to which access or distribution limitations have been applied in accordance with national laws, regulations,

	policies, or directives of either Party. Whether the information is provided or generated under this Agreement, it will be marked to identify its sensitive character. This definition includes, but is not limited to, information marked "Sensitive Homeland Security Information," "Sensitive Security Information," "For Official Use Only," "Law Enforcement Sensitive Information," "Protected Critical Infrastructure Information," "Restricted," and "Trusted Information Sharing Network for Critical Infrastructure Protection (TISN) In Confidence." Controlled Unclassified Information may include Business Confidential Information.
Cooperative Activity	Any form of activity described in Article 7 (Forms of Cooperative Activity) of this Agreement on which the Parties agree to cooperate to achieve the objectives of this Agreement. Such activity will normally take the form of a Project.
Critical Infrastructure	Governmental and/or private activities or sectors that are identified by each Party in its laws, executive orders, directives or policies as "Critical Infrastructure".
Designated Security Authority (DSA)	The government authority responsible for the development of policies and procedures governing security of Classified Information covered by these procedures.
Equipment and Material	Any document, product or substance on or in which information may be recorded or embodied. Material shall encompass everything regardless of its physical character of makeup including documents, writing, hardware, equipment, machinery, apparatus, devices, models, photographs, recordings, reproductions, notes, sketches, plans, prototypes, designs, configurations, maps and letters, as well as all other products, substances or material from which information can be derived.
Intellectual Property	Has the meaning given in Article 2 of the Convention Establishing the World Intellectual Property Organization, done at Stockholm July 14, 1967 and may include other subject matter as agreed by the parties.
Need-to-Know	A determination made by an authorized holder of Classified Information that a prospective recipient requires access to specific Classified Information in order to perform or assist in a lawful and authorized

	governmental function.
Participant	Any non-federal or non-central government person or entity, including but not limited to a statutory board, a private sector organisation, academic institution, or laboratory (or subsidiary thereof) engaged in accordance with Article 9 (Participants).
Project	A specific form of Cooperative Activity described in Article 8 (Projects).
Project Arrangement	The instrument setting out the scope of any Project to be carried out by the Parties described in Article 8 (Projects).
Project Background Information	Any information furnished to a Project regardless of form or type, including that of a scientific, technical, business, or financial nature, and including photographs, reports, manuals, threat data, experimental data, test data, designs, specifications, processes, techniques, inventions, software, source code, drawings, technical writings, sound recordings, pictorial representations, and other graphical presentations; whether in magnetic tape, electronic media, computer memory, or any other form and whether or not subject to intellectual property protections.
Project Development	That stage of a Project during which Project Foreground Information arises through the development of technologies, prototype equipment and other activities included in a Project.
Project Foreground Information	Any information created in a Project, regardless of form or type, including that of a scientific, technical, business, or financial nature, and including photographs, reports, manuals, threat data, experimental data, test data, designs, specifications, processes, techniques, inventions, software, source code, drawings, technical writings, sound recordings, pictorial representations, and other graphical presentations; whether in magnetic tape, electronic media, computer memory, or any other form and whether or not subject to intellectual property protections.
Receiving Party	The Party to which Classified Information is transferred.

Research, Development, Testing and Evaluation (RDT&E)	Programs and activities, including basic research, applied research, advanced technology development, proof of principle, verification, validation, and development of technical standards of the Parties and/or Participants that seek to identify, develop, and implement technological and analytical solutions, tools and techniques to address the homeland/domestic security capability needs of each Party.
Sending Party	The Party that originates and/or transfers Classified Information to the Receiving Party.
Sponsorship Arrangement	A written agreement between a Participant and a Party where the Party engages the Participant to carry out work on its behalf relating to Cooperative Activity.
Technology Management Plan	A specific component of the Project Arrangement jointly developed by the Parties in which they agree on how Project Background and Foreground Information will be handled, and which will discuss among other things, the rights of the Parties and their Contractors and Participants concerning Intellectual Property created under this Agreement, including how any royalties shall be shared, where such Intellectual Property shall be protected, and who shall be responsible for obtaining that protection and granting licenses.
Third Party	Any entity or person who is neither a Party to this Agreement nor a Participant in any of its Cooperative Activities.

ARTICLE 2

Objective

The objective of this Agreement is to establish a framework to encourage, develop and facilitate bilateral Cooperative Activity in science and technology that contributes to the homeland/domestic security capabilities of both Parties in:

a) the prevention and detection of, response to, and forensics and attribution applied to, terrorist or other homeland/domestic security threats and/or indicators;

b) the protection of Critical Infrastructure; and

c) crisis response and consequence management and mitigation for high-consequence events.

ARTICLE 3

Means of Achieving Objectives

1. The Parties shall seek to achieve the objectives set out in Article 2 (Objective) by means which may include:

   a) facilitating a systematic exchange of technologies, personnel, and information derived from or applied to similar and complementary operational Research, Development, Testing and Evaluation;

   b) collaborating to develop technologies and prototype systems that assist in countering present and anticipated terrorist actions in their respective territories and other homeland threats that satisfy their common strategic interests and requirements;

   c) integrating or adapting the homeland/domestic security technologies of each Party to save development costs;

   d) conducting evaluation and testing of prototype homeland/domestic security technologies;

   e) developing an approach to identify shared priorities, including in areas of research for Cooperative Activity;

   f) ensuring consistent and appropriate measures of effectiveness by development and implementation of appropriate standards and supporting test protocols and methodologies;

   g) involving, as appropriate, a wide range of public and private sector research and development organisations in Cooperative Activity developed pursuant to this Agreement;

   h) providing reciprocal opportunities to engage in Cooperative Activity, with shared responsibilities and contributions, which are commensurate with the Parties' or the Participants' respective resources;

   i) providing comparable access to government-sponsored or government-supported programs and facilities for visiting researchers and experts, and comparable access to and exchange of information and Equipment and Material;

   j) facilitating prompt exchange of information and Equipment and Material, which may affect Cooperative Activity, and facilitating the dissemination of information and Equipment and Material, consistent with applicable national laws, regulations, policies and directives; and

   k) utilizing and applying Project Foreground Information derived from Cooperative Activity to benefit both Parties. The right to ownership and exploitation of Project Foreground Information are to be governed by the Articles of this Agreement and established in a Technology Management Plan, taking into account, among other things, the Parties' respective contributions to the Project.

ARTICLE 4

Executive Agents

1. The Under Secretary of Science and Technology of the United States Department of Homeland Security is the primary official within the Government of the United States with responsibility for executive oversight of Cooperative Activity, as defined in this Agreement, and is hereby designated as the "U.S. Executive Agent" responsible for the administration of this Agreement. The duties of the U.S. Executive Agent may be delegated to other officials within the Department of Homeland Security.

2. The Deputy Secretary/Security of the Government of Singapore, Ministry of Home Affairs is the primary official within the Government of Singapore with responsibility for executive oversight of Cooperative Activity within Singapore and is hereby designated as the "Singapore Executive Agent" responsible for the administration of this Agreement. The duties of the Singapore Executive Agent may be delegated to other officials in the Singapore Ministry of Home Affairs.

3. Where, because of changes in the administrative arrangements for either Party, responsibility for the oversight of this Agreement is no longer held by those currently designated as "U.S. Executive Agent" or. "Singapore Executive Agent", the relevant Party shall provide the other Party in writing with the details of its new Executive Agent without requiring amendment to this Agreement.

ARTICLE 5

Management

1. The Executive Agents shall appoint Agreement Directors who shall be responsible for the day-to-day management of this Agreement and its Cooperative Activities. In addition the Agreement Directors shall be responsible for:

   a) promoting Cooperative Activity under this Agreement;

   b) managing activities carried out under this Agreement and its Projects and exercising technical and financial oversight;

   c) serve as a repository for any and all documentation which is generated pursuant to this Agreement including Project Arrangements and any annexes thereto;

   d) monitoring the overall use and effectiveness of this Agreement;

   e) recommending amendments to this Agreement to the Parties;

   f) resolving issues arising under this Agreement;

   g) authorizing involvement by Participants in Cooperative Activities pursuant to this Agreement;

   h) establishing and maintaining security guidelines, including procedures related to exchange, storage, and transmission of information and equivalent security markings to be applied to exchanged information in accordance with Article 12 (Information Security);

i) ensuring that any requirements to exchange Classified Information in connection with any Project are fully identified in advance and specifically agreed to prior to the conclusion of any Project Arrangement;

j) developing and maintaining an outline of the Cooperative Activities and their associated costs. This outline will be known as the annual work plan and will document the work to be carried out under each Project Arrangement; and

k) developing and maintaining a strategic plan setting out the objectives of the Cooperative Activities being carried out at any given time and the Parties' intentions for future cooperation.

2. The Agreement Directors shall meet at least annually to review implementation of the Agreement and at such other times as they consider necessary to implement this Agreement. The Agreement Directors shall be responsible for coordinating with other coordination bodies established by the Parties.

ARTICLE 6

Areas of Cooperative Activity

1. The Parties shall facilitate Cooperative Activity in broad areas related to homeland/domestic security. Areas of Cooperative Activity include, but are not limited to:

a) development and implementation of threat and vulnerability assessments, interdependency analyses, and methodologies related to potential threats to homeland/domestic security scenarios;

b) assessment of prior operational experiences and evaluation for the purposes of articulating operational deficiencies into definable technical requirements and appropriate standards and supporting methodologies;

c) integration of existing technologies for use in surveillance and detection in support of permissible homeland/domestic security activities, or in defense against terrorism and other homeland/domestic security threats;

d) research and development of technologies and systems to meet user requirements or capability gaps and national needs;

e) testing and evaluation of specific prototype systems for homeland/domestic security applications in both laboratory environments and real or simulated operational settings. This includes technologies associated with enhanced detection and monitoring of potential terrorist activities and those associated with recovery and reconstitution of damaged or compromised systems;

f) preparation of detailed final test reports to allow either Party or their Participants to evaluate follow-on efforts individually or to allow the transition of successful prototypes into operational deployments;

g) system protection (including protection of automated infrastructure control systems) and information assurance (including protecting the integrity of data and information in control systems);

h) reciprocal education, training, and exchange of scientific and technical personnel, and exchange of Equipment and Material in science and technology areas including Research, Development, Testing and Evaluation;

i) development and exchange of best practices, standards, and guidelines; and

j) commercialization and other exploitation of Project Foreground Information and any resulting Equipment and Material developed through Cooperative Activity to achieve the effective transition of technology from the research and development (R&D) environment to the operational environment.

2. Specific topics for Cooperative Activity include, but are not limited to:

a) Systems for information sharing and horizontal fusion of counter-terrorism information;

b) Counter-explosives technologies/equipment;

c) Infectious disease detection, tracking, and monitoring;

d) Assessment and countering of terrorist threats associated with the deployment of toxic chemicals and radioactive substances;

e) Critical infrastructure protection to include the processes and tools for conducting vulnerability assessments;

f) Maritime domain awareness/maritime security;

g) Airline and aircraft security; and

h) Security relating to other aspects of travel and trade.

ARTICLE 7

Forms of Cooperative Activity

1. Cooperative Activity under this Agreement may include, but is not limited to, any of the following:

a) coordinated research Projects and joint research Projects;

b) joint task forces to examine emergent homeland/domestic security challenges;

c) joint studies and scientific or technical demonstrations;

d) joint organisation of field exercises, scientific seminars, conferences, symposia, and workshops;

e) training of scientists and technical experts;

f) visits and exchanges of scientists, engineers, or other appropriate personnel;

g) exchanges or sharing of information and Equipment and Material;

h) exchange of information on practices, laws, regulations, standards, methods, and programs relevant to cooperation under this Agreement;

i) joint use of laboratory facilities and Equipment and Material, for conducting scientific and technological activities including Research, Development, Testing and Evaluation; and

j) joint management of the commercialization and exploitation of Equipment and Material and Project Foreground Information developed through Cooperative Activity.

2. Nothing in paragraph 1 shall preclude the Parties from facilitating other forms of Cooperative Activity that they may agree upon.

3. Prior to undertaking any Cooperative Activity (including any Project) under this Agreement, the Parties shall agree in writing upon the nature, scope, and duration of the Cooperative Activity, and in the case of a Project, agree upon a Project Arrangement as set out in Article 8.

ARTICLE 8

Projects

1. Cooperative Activity under this Agreement shall normally be implemented in the form of Projects to be conducted pursuant to Project Arrangements.

2. Project Arrangements shall ordinarily contain the following terms and conditions for each Project:

a) its nature;

b) its scope;

c) its duration;

d) the manner in which it will be funded;

e) specific details of any transfer of Equipment and Material and the identity of personnel and/or organisations, if any, to be committed to the Project;

f) Project Background Information to be used in the Project;

g) any specific provisions for terminating Participant involvement;

h) the dispute resolution process;

i) whether the use of Classified Information will be required;

j) any safety measures to be followed, including, where appropriate, specific procedures for dealing with hazardous or dangerous material;

k) any applicable cost sharing provisions;

l) any applicable cost ceiling;

m) currency variation arrangements;

n) any necessary technical annexes;

o) the allocation of responsibility for any taxes, duties or other government charges which may arise;

p) provisions addressing the national law which shall apply to Contracts made in relation to the Project Arrangement;

q) a Technology Management Plan containing details concerning the sharing, allocation and protection and/or benefits derived from the creation, use or exploitation of Intellectual Property under the Project; and

r) any other consistent terms and conditions necessary to ensure the required development of the Project; and

3. The Parties shall ensure that Project Arrangements shall incorporate the terms of this Agreement. In the case of any inconsistency, the terms of the Agreement shall prevail.

ARTICLE 9

Participants

1. Subject to the provisions of this Article, a Party may engage a Participant to carry out work relating to Cooperative Activity on its behalf. The engagement of any Participant in the implementation of any Cooperative Activity by either Party shall require the other Party's prior review and written approval.

2. Before engaging a Participant to carry out work, a Party must enter into a Sponsorship Arrangement unless such an agreement already exists that can support Cooperative Activities pursuant to this Agreement.

3. The Party engaging a Participant shall ensure that the Participant agrees to:

a) carry out any work relating to Cooperative Activity in accordance with the terms of this Agreement; and

b) report to that Party's Agreement Director on a periodic basis.

4. The Parties' Agreement Directors shall jointly determine the frequency and scope of the reporting requirement referred to in paragraph 3(b) of this Article.

5. In the event that a question arises with respect to a Participant and/or its activities under this Agreement, the Parties shall consult to consider the Participant's role in Cooperative Activity. If either Party objects to a Participant's continued participation and requests its termination, the Party that sponsored the Participant shall give the request sympathetic consideration, including as to the consequences of terminating the Participant's participation.

6. Nothing in this Agreement or any Project Arrangement precludes a Party who has sponsored a Participant from suspending a Participant's activities, or replacing the Participant in accordance with Paragraph 1, of this Article in one or more of its Project Arrangements.

ARTICLE 10

Contracting

1. The Parties shall ensure that Project Arrangements are supported by Contracts wherever possible. The Contracts may be formed between the Parties, their agents, Participants or Third Parties where appropriate.

2. All Contracts made pursuant to Project Arrangements shall include terms and conditions equivalent to the provisions of this Agreement, the relevant Project Arrangements, and their associated Technology Management Plans. Without limiting the foregoing each Party or its Contracting Agency shall negotiate to obtain the rights for both Parties to use and disclose Project Foreground Information as specified in Article 13 (Intellectual Property Management and Use of Information) and to obtain the rights contained in Article 14 (Publication of Research Results) unless the other Party agrees in writing that they are unnecessary in a particular case, and each Party's Contracting Agency shall insert into its Contracts, and require its subcontractors to insert in subcontracts, suitable provisions to satisfy the requirements of Article 12 (Information Security), Article 13 (Intellectual Property Management and Use of Information), Article 14 (Publication of Research Results) and Article 17 (Third Party Sales and Transfers).

3. The Parties recognize that their respective legislation and regulations may apply to activities undertaken in respect of Project Arrangements and supporting Contracts made under this Agreement.

ARTICLE 11

Finance

1. Subject to the availability of funds for Cooperative Activity and to the provisions of this Article, each Party shall bear its own costs of discharging its responsibilities under this Agreement and its associated Project Arrangements.

2. Except as provided in paragraph 1 of this Article, this Agreement creates no standing financial commitments.

3. The Parties may agree to share costs for Cooperative Activity. Detailed descriptions of the financial provisions for Cooperative Activity, including the total cost of the activity and each Party's cost share, shall be agreed between the Parties in Project Arrangements in accordance with paragraph 4 of this Article.

4. At the commencement of each Project, the Parties shall establish the equitable share of the total costs, including overhead costs and administrative costs. They shall also establish a cost target, a cost ceiling, and the apportionment of potential liability to be borne by each Party in the Project. In determining each Party's equitable share of total costs, the Parties may take into account:

   a) funds provided by one Party to the other for work under this Agreement ("financial contributions");

   b) material, personnel, use of Equipment and Material and facilities provided for the performance of work under this Agreement ("non-financial contributions") to directly support Agreement efforts. The Parties also recognize that prior work can constitute a non-financial contribution; and

   c) the ownership of Project Background Information utilized in the Project.

5. The following costs shall be borne entirely by the Party incurring the costs and are not included in the cost target, cost ceiling, or Project costs:

   a) costs associated with any unique national requirements identified by a Party; and/or

   b) any costs not expressly stated as shared costs or any costs that are outside the scope of this Agreement.

6. A Party shall promptly notify the other if available funds are not adequate to undertake activities arising as a result of this Agreement. If a Party notifies the other that it is terminating or reducing its funding for a Project, both Parties shall immediately consult with a view toward continuation on a changed or reduced basis. If this is not acceptable to both Parties, the respective rights and responsibilities of the Parties (and Participants) under Article 12 (Information Security), Article 13 (Intellectual Property Management and Use of Information) and Article 14 (Publication of Research Results) shall continue notwithstanding the termination or expiration of the Project.

7. At the commencement of each Project, the Parties shall jointly develop a Technology Management Plan.

8. Each Party shall be responsible for any audit of its activities in support of Cooperative Activity, including the activities of any of its Participants. Each Party's audits shall be in accordance with its own national practices. For Project Arrangements where funds are transferred from one Party to the other Party, the receiving Party shall be responsible for the internal audit regarding administration of the other Party's funds in accordance with national practices. Audit reports of such funds shall be promptly made available by the receiving Party to the other.

9. The U.S. dollar shall be the reference currency for this Agreement, and the fiscal year for any Project shall be the U.S. fiscal year.

ARTICLE 12

Information Security

1. All exchanges of information and Equipment and Material, including Classified Information, between the Parties and between Parties and Participants, shall be carried out in accordance with the applicable laws and regulations of the Parties, including those relating to the unauthorised transfer or re-transfer of such information and Equipment and Material.

The transfer of technical data for the purpose of discharging the Parties' obligations with regard to interface, integration, and safety shall normally be made without restriction, except as required by national laws and regulations relating to export control or the control of classified data. If design, manufacturing, and processing data, and associated software, which is business confidential but not export controlled, is necessary for interface, integration, or safety purposes, the transfer shall be made and the data and associated software shall be appropriately marked. All activities of the Parties pursuant to this Agreement shall be carried out in accordance with their national laws and regulations, including their export control laws and regulations and those pertaining to the control of classified information.

All information, Equipment and Material subject to export controls shall not be transferred pursuant to this Agreement unless such transfers are compliant with the originating Party's export control laws, policies and regulations.

2. Classified Information:

a) All Classified Information provided or generated pursuant to this Agreement and any of its Project Arrangements shall be stored, handled, transmitted, and safeguarded in accordance with the principles established between the Government of Singapore and the Government of the United States of America in the General Security of Military Information Agreement which entered into force March 9, 1983 ("the GSOMIA"). The Parties agree that the policies and safeguards established in the GSOMIA shall apply, mutatis mutandis, to exchanges of Classified Information under this Agreement. The Parties will establish implementing security arrangements to implement the principles in the GSOMIA in the context of this Agreement. Prior to the sharing of Classified Information, the providing Party will ensure that the information is properly marked and the receiving Party is aware of the pending transfer.

b) The Parties shall appoint a DSA to establish implementing security arrangements and procedures consistent with this Agreement.

c) Each Party shall ensure that access to Classified Information is limited to those persons who possess requisite security clearances and have a specific need for access to the Classified Information in order to participate in Cooperative Activity established pursuant to this Agreement.

d) Each Party shall ensure that it incorporates the provisions of this Article into Project Arrangements. In addition, if either Party deems it necessary, Project Arrangements shall include:

i) detailed provisions dealing with the prevention of unauthorised transfer or re-transfer of information and Equipment and Material; and/or

ii) detailed distribution and access restrictions on information and Equipment and Material.

e) Each Party shall take all necessary lawful steps available to it to ensure that Classified Information provided or generated pursuant to this Agreement is protected from further disclosure, unless the other Party consents to such disclosure.

f) Classified Information shall be transferred only through official government-to-government channels. Such Classified Information shall be given the equivalent level of classification in the country of receipt as it was given in the country of origin and shall be marked with a legend containing the country of origin, the conditions of release, and the fact that the information relates to this Agreement.

g) The Parties shall investigate all cases in which it is known or where there are reasonable grounds for suspecting that Classified Information provided or generated pursuant to this Agreement has been lost or disclosed to unauthorised persons. Each Party shall promptly and fully inform the other of the details of any such occurrences, and of the final results of the investigation and of the corrective action taken to preclude recurrences.

h) Unless both Parties agree in writing that it is unnecessary in a particular case, Contractors, prospective Contractors, subcontractors, or private sector Participants that are determined by either Party to be under financial, administrative, policy or management control of nationals or entities of any country which is not a Party to this Agreement may only participate in a Contract or subcontract requiring access to Classified Information that has been classified on grounds of national security if enforceable measures are in effect to ensure that the nationals or entities of that country do not have access to such Classified Information.

i) Information or Equipment and Material provided or generated pursuant to this Agreement may not be classified any higher than the "TOP SECRET" level.

3. Controlled Unclassified Information: The nature and amount of the Controlled Unclassified Information to be acquired and disseminated pursuant to this Agreement shall be consistent with the objectives of this Agreement and the following guidelines and procedures:

a) Controlled Unclassified Information shall be used by the receiving Party only for the purposes directly related to Cooperative Activity conducted pursuant to this Agreement;

access to Controlled Unclassified Information shall be limited to those personnel of the receiving Party whose access is necessary for the permitted use under this Agreement;

all necessary lawful steps shall be taken, which may include national classification where appropriate, to keep Controlled Unclassified Information free from unauthorised disclosure, including requests under any public access provisions;

Controlled Unclassified Information provided under this Agreement is to be marked by the Party providing it with a legend containing the country of origin, the conditions of release, the fact that it relates to this Agreement and a statement to the effect that access to the information is controlled; and

Controlled Unclassified Information provided or generated pursuant to this Agreement shall be stored, handled, and transmitted in a manner that ensures proper control. Prior to authorizing the release of Controlled Unclassified Information to any Participant, the authorizing Party shall ensure the Participant is legally required to control such information in accordance with the provisions of this Article.

4. Business Confidential Information:

a) Each Party shall safeguard and protect identified Business Confidential Information that is furnished or is created pursuant to this Agreement in accordance with Annex 1 to this Agreement. The receiving Party shall maintain security over such items, and they shall not be retransferred without the authority of the government that provided such items.

b) The Parties shall ensure that any Participants are legally required to control and safeguard Business Confidential Information in accordance with this Agreement.

ARTICLE 13

Intellectual Property Management and Use of Information

1. General: Both Parties recognise that successful collaboration depends on full and prompt exchange of information necessary for carrying out Cooperative Activities. The Parties intend to acquire sufficient Project Background Information and/or rights to use such information to enable the development of technologies, prototype equipment, and other activities included in a Project. The nature and amount of information to be acquired and disclosed shall be consistent with this Agreement and the terms of individual Project Arrangements.

2. Exploitation: Issues related to the management of Project Background Information and Project Foreground Information, including the allocation of any benefits (including royalties) derived from the creation and exploitation of Intellectual Property in Project Foreground Information in respect of Cooperative Activities under this Agreement shall be governed by the Articles of this Agreement, including the provisions of Annex I, and any Technology Management Plans associated with a Project.

3. Government Furnished Project Background Information:

a) Disclosure: Unless a Project Arrangement provides otherwise, each Party shall disclose to the other Project Background Information in its possession or control, provided that:

(i) the Project Background Information is necessary to or useful in the implementation of a proposed or existing Project established pursuant to this Agreement. The Party in possession or control of the information shall determine whether it is "necessary to" or "useful in" establishing new Projects or implementing existing ones;

(ii) the Project Background Information shall be made available without adversely affecting the rights of holders of Intellectual Property or Business Confidential Information; and

(iii) disclosure is consistent with national disclosure policies, laws, and regulations of the furnishing Party.

b) Use: Unless a Project Arrangement provides otherwise, Government Furnished Project Background Information disclosed by one Party to the other may be used without charge by the other Party for Project Development purposes only; and the furnishing Party shall retain all its rights with respect to such Government Furnished Project Background Information. Where the use of Government Furnished Project Background Information is necessary to enable the use of Project Foreground Information, such Government Furnished Project

Background Information may be used by the receiving Party for homeland/domestic security purposes, upon agreement of the Parties and in accordance with applicable laws.

4. Participant Furnished Project Background Information:

a) Disclosure: Unless a Project Arrangement provides otherwise, Project Background Information furnished by a Participant sponsored by one Party shall be made available to the other Party provided the following conditions are met:

(i) the Project Background Information is necessary to or useful in the Arrangement. The Party in possession or having control of the information shall determine whether it is "necessary to" or "useful in" a Project;

(ii) the Project Background Information may be made available without adversely affecting the rights of holders of Intellectual Property or Business Confidential Information; and

(iii) disclosure is consistent with national disclosure policies, laws, and regulations of the furnishing Party.

b) Use: Project Background Information furnished by Participants may be subject to restrictions by holders of Intellectual Property. In the event that it is not subject to restrictions preventing its use, it may only be used by the Parties for Project Development purposes. If a Party wants to use Participant Furnished Project Background Information for purposes other than Project Development, (which other purposes shall include, without limitation, sales and licences to Third Parties), then the requesting Party must obtain any required licenses from the owner or owners of the rights to that information.

5. Project Foreground Information:

Project Foreground Information may be commercialized where appropriate, in which case benefits derived from the utilization and application of such information shall be distributed according to the relative contributions of the Parties to the Project, the cost of commercialization, and the degree of commitment of the Parties to obtaining legal protection of Intellectual Property, as determined in a Technology Management Plan.

Each of the Parties may own its Intellectual Property in Project Foreground Information in its own jurisdiction and in the jurisdiction of the other Party and may derive benefits from its exploitation and commercialization in those jurisdictions, with a mechanism for their establishment in a Technology Management Plan.

ARTICLE 14

Publication of Research Results

1. The Parties agree that the provisions of paragraph A of Section III of Annex 1 to this Agreement shall apply to the publication of any research results created under this Agreement.

2. Publication Review: The Parties agree that publication of the results may be one of the goals of this Agreement, to stimulate further research in the public or private sector. In order to protect

the rights of the Parties, including to avoid prejudice to the holders of Intellectual Property and Business Confidential Information, each Party shall transmit to the other for its review any material containing such results and intended for publication, or other disclosure, at least sixty (60) working days before such material is submitted to any editor, publisher, referee or meeting organiser, or is otherwise disclosed. In the absence of an objection by the other Party within that sixty-day period the publication or other disclosure may proceed. If either Party raises an objection to the public release of publications arising from this Agreement, public release will not occur unless and until there is agreement between the Parties as to the conditions for public release. It is the responsibility of each Party to coordinate with its sponsored Participants who work under a Project Arrangement to determine whether all potential Intellectual Property or Business Confidential Information interests have been properly considered.

3. Affiliation: The fact that any cooperative activity may have received sponsorship and/or financial support of either or both Parties for Cooperative Activity shall not be disclosed for any promotional or commercial purposes without the express written permission of both Parties.

4. Acknowledgements: Notwithstanding paragraph 3 of this Article, all scientific or technical publications relating to the results of the Projects established pursuant to this Agreement shall include as applicable a notice indicating that the underlying investigation received financial support from either or both Parties. Two copies of such publications shall be sent to the Agreement Directors by the individual or entity that is the author of the publications.

ARTICLE 15

Entry of Personnel and Equipment and Material

1. With respect to Cooperative Activity under this Agreement, each Party, in accordance with its national laws and regulations, and as appropriate, shall facilitate:

   a) prompt and efficient entry into and exit from its territory of appropriate Equipment and Material, to especially include instrumentation, test equipment and Project Background and Foreground Information;

   b) prompt and efficient entry into and exit from its territory, and domestic travel and work of, persons participating on behalf of the Parties or Participants in the implementation of this Agreement;

   c) prompt and efficient access, as appropriate, to relevant geographical areas, information, Equipment and Material and institutions, for persons participating on behalf of the Parties, or Participants, in the implementation of this Agreement; and

   d) mutual logistic support.

2. Customs duties, import and export taxes, and similar charges shall be administered in accordance with each Party's respective laws and regulations. Insofar as existing laws and regulations permit, each Party shall use their best efforts to ensure that readily identifiable duties, taxes and similar charges, as well as quantitative or other restrictions on imports and exports, are not imposed in connection with Projects carried out under this Agreement.

ARTICLE 16

Research Safety

1. The Parties shall establish and implement policies and practices to ensure and provide for the safety of their employees, the public, and the environment during the conduct of Cooperative Activities subject to applicable national laws and regulations. If any Cooperative Activity involves the use of dangerous or hazardous materials, the Parties shall establish and implement an appropriate safety plan.

2. Without prejudice to any existing arrangements under the Parties' national laws, the Parties shall take appropriate steps to protect the welfare of any subjects involved in Cooperative Activities. Such steps may include the provision of medical treatment and, where appropriate, financial relief.

ARTICLE 17

Third Party Sales and Transfers

1. Neither Party shall:

   a) sell, transfer title to, disclose, or transfer possession of Project Foreground Information, or equipment incorporating Foreground Information, to a Third Party without the prior written consent of the other Party; or

   b) permit any such sale, disclosure, or transfer by others, including by the owner of the item, without the prior written consent of the other Party. Such sales and transfers shall be consistent with Article 13 (Intellectual Property Management).

2. For the purposes of this Article, component States, Territories, Protectorates and other domestic government entities of either Party are not considered to be Third Parties.

ARTICLE 18

Dispute Resolution

1. Except for disputes concerning Intellectual Property and those procedures set forth in Article 14 (Publication of Research Results), all questions or disputes between the Parties that cannot be resolved by the Agreement Directors arising under or relating to this Agreement shall be submitted to the Executive Agents. Such questions and disputes shall be resolved only by consultation between the Parties and shall not be referred to a national court, an international tribunal, or to any other person or entity for resolution.

2. Resolution of disputes concerning Intellectual Property, shall be resolved as provided for in Annex I.

3. Each Party shall ensure that any Sponsorship Arrangement that it enters into with a Participant includes provisions for dispute resolution consistent with paragraph 1 and 2.

ARTICLE 19

Status of Annex

1. Annex 1 forms an integral part of this Agreement and, unless expressly provided otherwise, a reference to this Agreement includes a reference to Annex 1.

ARTICLE 20

Entry into Force, Duration, Amendment, and Termination

1. This Agreement shall enter into force upon the date of the last signature.

2. The Agreement may be amended in writing by the mutual consent of the Parties.

3. This Agreement shall remain in force until terminated in writing by either Party, with such termination taking effect six months from the date of the written notice of termination. This Agreement may also be terminated immediately by the mutual written agreement of the Parties.

4. Unless otherwise agreed, termination of this Agreement shall not affect the validity or duration of any Cooperative Activity previously undertaken pursuant to it.

5. The respective rights and responsibilities of the Parties (and Participants) under Article 12 (Information Security), Article 13 (Intellectual Property Management and Use and Information), Article 14 (Publication of Research Results), Article 17 (Third Party Sales and Transfers), Article 18 (Dispute Resolution) and Annex I shall continue notwithstanding the termination of this Agreement. In particular, all Classified Information exchanged or generated under this Agreement shall continue to be protected in the event of the termination of the Agreement.

IN WITNESS WHEREOF, the undersigned, duly authorised by their respective Governments, have signed this Agreement.

DONE at Washington, in duplicate, on this 27 day of March 2007.

FOR THE GOVERNMENT OF THE UNITED STATES OF AMERICA:

FOR THE GOVERNMENT OF SINGAPORE:

ANNEX I

Intellectual Property Rights

I. General Obligation

The Parties shall ensure adequate and effective protection of intellectual property created or furnished under this Agreement and relevant implementing arrangements. Rights to such intellectual property shall be allocated as provided in this Annex.

II. Scope

A. This Annex is applicable to all Cooperative Activities undertaken pursuant to this Agreement, except as otherwise specifically agreed by the Parties or their designees.

B. Each Party shall ensure, through contracts or other legal means with its own participants, if necessary, that the other Party can obtain the rights to Intellectual Property allocated in accordance with this Annex. This Annex does not otherwise alter or prejudice the allocation between a Party and its nationals, which shall be determined by that Party's laws and practices.

C. Except as otherwise provided in this Agreement, disputes concerning Intellectual Property arising under this Agreement shall be resolved through discussions between the concerned participants or, if necessary, the Parties or their designees. Upon mutual agreement of the Parties, a dispute shall be submitted to an arbitral tribunal for binding arbitration in accordance with the applicable rules of international law. Unless the Parties or their designees agree otherwise in writing, the arbitration rules of UNCITRAL shall govern.

D. Termination or expiration of this Agreement shall not affect rights or obligations under this Annex.

III. Allocation of Rights

A. Subject to the provisions of the Agreement (including provisions relating to Information Security), each Party shall be entitled to a non-exclusive, irrevocable, royalty-free license in all countries to translate, reproduce, and publicly distribute scientific and technical journal articles, reports, and books directly arising from cooperation under this Agreement. All publicly distributed copies of a copyrighted work prepared under this provision shall indicate the names of the authors of the work unless an author explicitly declines to be named.

B. Rights to all forms of Intellectual Property, other than those rights described in paragraph IIIA above, shall be allocated as follows:

(1) Visiting researchers shall receive, for any intellectual property they create, rights, awards, bonuses and royalties in accordance with the policies of the host institution.

(2) (a) Unless otherwise agreed in a Project Arrangement or other arrangement, the Parties or their Participants shall jointly develop provisions of a Technology Management Plan regarding ownership and exploitation rights to Intellectual Property created in the course of the Cooperative Activities other than those covered by paragraph III (B) (1) of this Annex. The Technology Management Plan shall consider the relative contributions of the Parties, Participants and Contractors to the Cooperative Activities, the degree of commitment in obtaining legal protection and licensing of the Intellectual Property, and such other factors as are deemed appropriate.

(b) If the Parties or their Participants do not agree on provisions of a Technology Management Plan under subparagraph (a) within a reasonable time, not to exceed six months from the time a Party becomes aware of the creation of Intellectual Property created in the course of the Cooperative Activities, the Parties or their Participants shall resolve the matter in accordance with the provisions of paragraph II (C) of this Annex. Pending resolution of the matter, any Intellectual Property created by persons employed or sponsored by one Party under Cooperative Activities shall be owned by that Party and Intellectual Property created by persons employed or sponsored by both Parties shall be jointly owned by the Parties, but such Intellectual Property shall be commercially exploited only by mutual agreement.

(c) Notwithstanding paragraphs III B(2)(a) and (b) above, if either Party believes that a particular project may lead to or has led to the creation of Intellectual Property not protected by the laws of the other Party, the Parties shall immediately hold discussions to determine the allocation of rights to the Intellectual Property. If an agreement cannot be reached within three months of the date of the initiation of the discussions, cooperation on the Project in question shall be terminated at the request of either Party. Creators of Intellectual Property shall nonetheless be entitled to awards, bonuses and royalties in accordance with the policies of the institution employing or sponsoring that person.

(d) For each invention made under any Cooperative Activity, the Party employing or sponsoring the inventor(s) shall disclose the invention promptly to the other Party together with any documentation and information necessary to enable the other Party to establish any rights to which it may be entitled. Either Party may ask the other Party in writing to delay publication or public disclosure of such documentation or information for the purpose of protecting its rights in the invention. Unless otherwise agreed in writing, the delay shall not exceed a period of six months from the date of disclosure by the inventing Party to the other Party.

IV. Business Confidential Information

In the event that information identified in a timely fashion as business-confidential is furnished or created under this Agreement, each Party and its participants shall protect such information in accordance with applicable laws, regulations, and administrative practices. Information may be identified as "business-confidential" if a person having the information may derive an economic benefit from it or may obtain a competitive advantage over those who do not have it, and the information is not generally known or publicly available from other sources, and the owner has not previously made the information available without imposing in a timely manner an obligation to keep it confidential.

Without prior written consent, the receiving Party may not disclose any Business Confidential Information provided to it by the other Party except to appropriate employees and government personnel. If expressly agreed between the Parties, Business Confidential Information may be disclosed by the receiving Party to contractors and sub-contractors. Such disclosures shall be for the use only within the scope of their contracts with their respective Party relating to cooperation under this Agreement. The Parties shall impose, or shall have imposed, an obligation on those receiving such information to keep it confidential. If a Party becomes aware that, under the laws or regulations applicable to it, it will be, or may reasonably expect to become, unable to meet the non-disclosure provisions, it shall immediately inform the other Party. The Parties shall thereafter agree on an appropriate course of action.