

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE DEPARTMENT OF DEFENSE

OF THE UNITED STATES OF AMERICA

AND

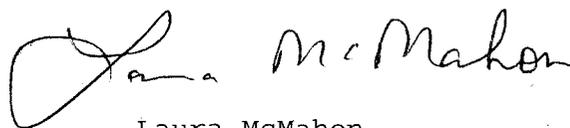
THE MINISTRY OF DEFENSE OF JAPAN

CONCERNING

A PALM-SIZED AUTOMATED CHEMICAL AGENT DETECTOR (PACAD)

COOPERATIVE RESEARCH PROJECT

I hereby certify this to be a true certified copy of the Memorandum of Understanding (MOU) between The Department of Defense of the United States of America and the Ministry of Defense of Japan Concerning the Palm-Sized Automated Chemical Agent Detector (PACAD) Cooperative Research Project of March 4, 2008. The Office of the Deputy Assistant Secretary of the Army for Defense Exports and Cooperation, Armaments Cooperation Division, maintains custody of a signed copy of the MOU.



Laura McMahon
DEPUTY, INTERNATIONAL AGREEMENTS

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PREAMBLE

1. In recognition of the purposes of and subject to the Mutual Defense Assistance Agreement Between the United States of America and Japan, signed at Tokyo on March 8, 1954 (hereinafter referred to as "the MDA Agreement"), and the Exchange of Notes Concerning the Transfer of Arms and Military Technologies signed at Tokyo on June 23, 2006 (hereinafter referred to as the "2006 Exchange of Notes"), and pursuant to the Exchange of Notes concerning the Palm-Sized Automated Chemical Agent Detector (PACAD) Cooperative Research Project, dated March 4, 2008; the Department of Defense of the United States of America (U.S. DoD) and the Ministry of Defense of Japan (MoD), (hereinafter referred to as the "Parties") agree to this Memorandum of Understanding (MOU) concerning the Palm-Sized Automated Chemical Agent Detector Cooperative Research Project (hereinafter referred to as "the Project").

2. The Parties:

Having a common interest in defense;

Desiring to improve their conventional defense capabilities through the application of emerging technology;

Having a mutual interest in improving the portability and usability of chemical agent detection equipment;

Having independently conducted research, prototyping, test, and evaluation of the application of chemical agent detection and automation technologies; and

Recognizing the benefits of cooperation on a Palm-Sized Automated Agent Detector (PACAD);

Have agreed as follows:

ARTICLE I

DEFINITION OF TERMS

| | |
|------------------------|---|
| All-in-One Prototype | A chemical agent detector prototype that incorporates automated color recognition, an agent type identification component, a reagent deposition mechanism, a data processing unit, and an indicator unit. |
| Background Information | Technical Information not generated in the performance of the Project. |
| Breadboard Prototype | A chemical agent detector prototype, which is composed of optical devices (such as a Red-Green-Blue (RGB) sensor and fiber spectroscope), a light source, a data processing device, a reaction plane plate, a stage, and a pipette. |
| Classified Information | Information or Material that discloses information requiring protection in the interests of national defense or foreign relations of either Government and is classified in accordance with applicable national laws and regulations. This information may be oral, visual, magnetic, or documentary in form or in form of equipment or technology. |
| Contract | Any mutually binding legal relationship under national law that obligates a Contractor under the Project to furnish supplies or services. |
| Contracting | The obtaining of supplies or services by Contract from sources outside the governmental organizations of the Parties. Contracting includes description of supplies and services required, solicitation and selection of sources, preparation and award of Contracts, and all phases of Contract administration. |

| | |
|-------------------------------------|---|
| Contracting Agency | The entity within the governmental organization of a Party that has authority to enter into, administer, and/or terminate Contracts. |
| Contracting Officer | A person representing a Contracting Agency of a Party who has the authority to enter into, administer, and/or terminate Contracts. |
| Contractor | Any entity awarded a Contract by a Party's Contracting Agency. |
| Contractor Support Personnel | Persons specifically identified in support Contracts who provide administrative, managerial, scientific, or technical support services to a Party under a Contract with that Party that prohibits using information received under the Contract for any other purpose. |
| Controlled Unclassified Information | Unclassified information to which access or distribution limitations have been applied in accordance with applicable national laws and regulations, and is appropriately marked to identify its "in confidence" nature. It includes information that 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 Party. |
| Designated Security Authority | The security office approved by national authorities to be responsible for the security aspects of the Project. |
| Foreground Information | Technical Information generated in the performance of the Project. |
| Intellectual Property Rights | All copyright and related rights, all rights in relation to inventions (including Patent rights), all rights in registered and unregistered trademarks (including service marks), registered and unregistered trademarks designs, of integrated circuits, and geographical indications, and any other |

rights resulting from creative activity in the industrial, scientific, literary, and artistic fields.

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|-------------------|--|
| M256A1 | A U.S.-origin chemical agent detector kit capable of detecting hydrogen cyanide, cyanogen chloride, mustard, nitrogen mustard, distilled mustard, phosgene oxime, lewisite and nerve agents. |
| Management Plan | A plan jointly developed by both Parties' Project Managers (PMs) and approved by the Joint Steering Committee (JSC), which documents the management methods, Project goals, specifications, and technical methods that will be employed to permit accomplishment of the Project. |
| Material | Any item or substance from which information can be derived. |
| Party | A signatory to this MOU represented by its military and civilian personnel. Contractors and Contractor Support Personnel will not be representatives of a Party under this MOU. |
| Patent | Grant of exclusive rights under applicable Patent Law or Utility Model Law of Japan, or Patent laws of the United States or laws of any third country. The term "exclusive rights" refers to any and all such rights to exclude others from making, using, selling, or offer selling of an invention as defined by national law. |
| Project | The cooperative efforts of the Parties under this MOU to achieve the objectives in Article II (Objectives) and accomplish the work in Article III (Scope of Work and Sharing of Tasks). |
| Project Equipment | Any Material, equipment, end item, subsystem, component, special tooling, or test equipment used in the Project. |

| | |
|-------------------------|--|
| Project Invention | Any invention or discovery formulated or made in the course of work performed under this MOU as defined by national laws. |
| Proprietary Information | Information identified by the owner as having access or use limitations in accordance with applicable national laws and regulations. |
| Prospective Contractor | Any entity that seeks to enter into a Contract to be awarded by a Party's Contracting Agency and that, in the case of a solicitation involving the release of export-controlled information, is eligible to receive such information. |
| Technical Information | Recorded or documented information of a scientific or technical nature, regardless of format or other documentary characteristics including: experimental and test data; specifications; design process; inventions or discoveries, whether or not patentable; technical writings; sound recordings; magnetic records; computer software and computer software documentation, both programmatic and data base; computer memory printouts or data retained in computer memory; works of a technical nature; and any other relevant technical data in whatever form presented, whether or not copyrighted. |
| Third Party | A government other than the Government of a Party and any person or other entity whose government is not the Government of a Party. |

ARTICLE II

OBJECTIVES

2.1. The objectives of this PACAD MOU are:

- 2.1.1. To develop common performance objectives for a PACAD prototype.
- 2.1.2. To cooperatively research, test, evaluate, and fabricate a PACAD prototype based on the chemistry of the M256A1 chemical agent detector using Japanese micro-fluidic, electro-optical, and miniaturization technologies.
- 2.1.3. To share the results of each Party's efforts related to PACAD development.

ARTICLE III

SCOPE OF WORK AND SHARING OF TASKS

3.1. The scope of work of this MOU is:

3.1.1. The Parties will research, develop, test and evaluate cooperatively a portable and automated version of the M256A1 chemical agent detector.

3.1.2. The Parties will conduct the following cooperative research:

3.1.2.1. Demonstration of electro-optical detection methods for reagent reaction.

3.1.2.2. Identification of minimum reagent quantity and reaction surface size needed for chemical agent detection.

3.1.2.3. Automation of the chemical agent detection process based on the M256A1 chemical agent detector design.

3.1.3. The Parties then will develop, test, and evaluate a PACAD Breadboard Prototype based on the findings outlined in subparagraph 3.1.1 of this Article. The evaluation will identify gaps and issues to be addressed during the development, test, and evaluation of an All-in-One Prototype.

3.1.4. The Parties will then develop, test and evaluate a PACAD All-in-One Prototype.

3.1.5. The Parties will analyze the suitability of the All-in-One Prototype jointly for possible production.

3.2. The sharing of tasks will be as follows:

3.2.1. The U.S. DoD will:

3.2.1.1. Provide forty (40) M256A1 chemical agent detector kits, the M256A1 chemical agent detector technical data package (TDP), and the M256A1 chemical agent detector manufacturing data package (MDP), which includes information

concerning its reagents, reaction surfaces, heater mechanism, and color change detection mechanisms.

3.2.1.2. Provide information concerning the size and interfaces of the U.S. Army Edgewood Chemical and Biological Center (ECBC) test chamber.

3.2.1.3. Test the Breadboard Prototype in accordance with a test plan described in subparagraph 3.2.3.3. of this Article. MoD officials will be involved in the tests to the maximum extent possible under the standard safety constraints at ECBC. MoD Contractors will also be permitted to attend the test.

3.2.1.4. Test the All-in-One Prototype in accordance with a standard detector test plan. MoD officials will be involved in the tests to the maximum extent possible under the standard safety constraints at ECBC. MoD Contractors will also be permitted to attend the test.

3.2.2. The MoD will:

3.2.2.1. Propose concepts for reagent deposition for the Breadboard Prototype.

3.2.2.2. Conduct a preliminary evaluation of methods using optical devices like RGB sensor and fiber spectroscope methods for automated color change recognition.

3.2.2.3. Assemble the Breadboard Prototype.

3.2.2.4. Conduct preliminary tests of the Breadboard Prototype at the Chemical School of Japan Ground Self-Defense Force.

3.2.2.5. Propose to the U.S. DoD the basic design concept of an All-in-One Prototype.

3.2.2.6. Design and fabricate the All-in-One Prototype.

3.2.2.7. Conduct preliminary tests of the All-in-One Prototype at the Chemical School of Japan Ground Self-Defense Force.

3.2.3. The U.S. DoD and the MoD will jointly:

3.2.3.1. Evaluate MoD reagent deposition proposals for the Breadboard Prototype.

3.2.3.2. Determine, through discussions, the details of the Breadboard Prototype, including:

3.2.3.2.1. Sequence of tests and reagent deposition.

3.2.3.2.2. Reagent quantities.

3.2.3.2.3. Information to be displayed on a computer.

3.2.3.2.4. Reaction surface size.

3.2.3.3. Discuss the test plan and procedures used at ECBC for the Breadboard Prototype test.

3.2.3.4. Review the results of the Breadboard Prototype tests at ECBC.

3.2.3.5. Determine, through discussions, the details of the design of the All-in-One Prototype to accomplish the following:

3.2.3.5.1. Reagent deposition and the reservoirs needed to automatically conduct multiple tests.

3.2.3.5.2. Color change recognition mechanism.

3.2.3.5.3. Reaction ticket and the capacity to automatically carry out multiple tests.

3.2.3.5.4. Agent detection information indicator.

3.2.3.5.5. Optimal power, size, and weight.

- 3.2.3.6. Discuss the standard detector test plan and procedures used at ECBC for the All-in-One Prototype test.
- 3.2.3.7. Jointly review the results of the All-in-One Prototype tests at ECBC.
- 3.2.3.8. Prepare a joint final report covering the results of the entire effort.

ARTICLE IV

MANAGEMENT (ORGANIZATION AND RESPONSIBILITY)

4.1. This Project will be directed and administered on behalf of the Parties by an organization consisting of a Joint Steering Committee (JSC) and Project Managers (PMs) appointed by the Parties. The JSC will have overall authority over the PMs, in accordance with this MOU. The PMs will have primary responsibility for effective implementation, efficient management, and direction of the Project in their respective country in accordance with this MOU. The Parties will maintain and fund their own organizations for managing this Project.

4.2. The JSC will consist of a representative from the U.S. Army Research, Development and Engineering Command, Edgewood Chemical and Biological Center (USARDECOM-ECBC) and the Japan MOD Technical Research and Development Institute, Advanced Defense Technology Center (TRDI-ADTC), appointed by their respective Party. The JSC will meet at least annually, with additional meetings held at the request of either representative. Each meeting of the JSC will be chaired by the representative of the Party hosting the meeting. Decisions of the JSC will be made unanimously.

4.3. The JSC will be responsible for:

- 4.3.1. Exercising executive-level oversight of the Project.
- 4.3.2. Reviewing and approving the detailed Management Plan and any updates (including the Project Equipment list of all Project Equipment loaned by one Party to the other) prepared and submitted by the PMs.
- 4.3.3. Reviewing the progress of the Project in accordance with Article III (Scope of Work and Sharing of Tasks) of this MOU and the Management Plan.
- 4.3.4. Reviewing the financial status of the Project to ensure compliance with the provisions of Article V (Financial Provisions) of this MOU.
- 4.3.5. Resolving issues brought forth by the PMs.

- 4.3.6. Reviewing and forwarding to the Parties for approval recommended amendments to this MOU in accordance with Article XVIII (Entry into Force, Duration, Amendment, and Termination) of this MOU.
- 4.3.7. Making recommendations to the Parties with respect to proposed sales and transfers in accordance with Article XII (Sales and Transfers) of this MOU.
- 4.3.8. Monitoring sales and transfers authorized in accordance with Article XII (Sales and Transfers) of this MOU.
- 4.3.9. Reviewing the semi-annual status report submitted by the PMs.
- 4.3.10. Receiving reports concerning Technical Information that will be transferred under this MOU from Japan to the United States that may be considered as Military Technology as defined in the 2006 Exchange of Notes prior to referral to the Joint Arms and Military Technology Commission.
- 4.3.11. Reviewing and approving the final reports submitted by PMs.
- 4.3.12. Confirming the ownership and Patent rights of Project Inventions as described in Article VIII (Disclosure and Use of Technical Information) of this MOU.
- 4.3.13. Approving plans to manage and control the transfer of Project Equipment provided by either Party to support the execution of the Project in accordance with Article VII (Project Equipment) of this MOU.
- 4.3.14. Maintaining oversight of the security aspects of the project, including reviewing and approving a project protection instruction (PPI) prior to the transfer of Controlled Unclassified Information.

4.3.15. Employing its best efforts to resolve, in consultation with the export control authorities of the Parties, any export control issues raised by the PMS in accordance with subparagraph 4.7.12. of this Article or raised by the other Party's JSC representative in accordance with subparagraph 8.1.3. of Article VIII (Disclosure and Use of Technical Information) of this MOU.

4.4. In the event that the JSC is unable to reach a timely decision on an issue, each JSC representative will refer the issue to its higher authority for resolution. Except with respect to efforts relating to the issue to be resolved, the approved Management Plan will continue to be implemented without interruption under the direction of the PMS while the issue is being resolved by higher authority.

4.5. The U.S. DoD will appoint the U.S. PM, and the MoD will appoint the Japanese PM, both of whom will be responsible for implementing this MOU and for carrying out the Project. The PMS will be from USARDECOM-ECBC for the U.S. DoD and TRDI-ADTC for the MoD.

4.6. The PMS are wholly responsible for management of those tasks listed in Article III (Scope of Work and Sharing of Tasks) of this MOU. Additional detail will be provided in the Management Plan, which will be submitted to the JSC within 90 days of MOU signature by both Parties.

4.7. The PMS will be responsible for:

4.7.1. Managing the cost, schedule, technical, and financial aspects of the Project.

4.7.2. Jointly developing and submitting to the JSC for approval a detailed Management Plan consistent with Article III (Scope of Work and Sharing of Tasks) of this MOU within 90 days of signing the MOU.

4.7.3. Executing the approved Management Plan.

4.7.4. Developing and submitting any required changes to the approved Management Plan to the JSC for approval.

- 4.7.5. Referring issues to the JSC that cannot be resolved by the PMs.
- 4.7.6. Developing and forwarding to the JSC recommended amendments to this MOU.
- 4.7.7. Providing a semi-annual status report to the JSC, and other such reports as directed by the JSC.
- 4.7.8. Developing the Project Equipment list and managing the loan of Project Equipment in accordance with Article VII (Project Equipment) of this MOU.
- 4.7.9. Preparing required reports.
- 4.7.10. Documenting the exchange of information between both Parties.
- 4.7.11. Developing and forwarding to the JSC a PPI for the Project within three months after this MOU enters into force, and implementing the PPI upon final approval.
- 4.7.12. Monitoring export control arrangements required to implement the MOU and, if applicable, immediately referring to the JSC any export control issues that could adversely affect the implementation of the MOU.

4.8. If the furnishing Party finds it necessary to exercise a restriction on the retransfer of export-controlled information as set out in subparagraph 8.1.3. of Article VIII (Disclosure and Use of Technical Information) of this MOU, it will promptly inform the receiving Party. If restriction is then exercised and the affected receiving Party objects, that Party's JSC representative will promptly notify the furnishing Party's JSC representative and they will consult in order to discuss ways to resolve issues of mitigate any adverse effects.

ARTICLE V

FINANCIAL PROVISIONS

5.1. Each Party will bear an equitable burden to conduct the Project as defined in this MOU. The assignment of work in Article III (Scope of Work and Sharing of Tasks) of this MOU represents an equitable sharing of work, which is expected to lead to an equitable share of the results of the Project.

5.2. Each Party estimates that the cost of performance of the tasks under this MOU will not exceed \$3,000,000 in then-year U.S. dollars respectively. Cooperative efforts of the Parties over and above the jointly agreed tasks set forth in Article III (Scope of Work and Sharing of Tasks) of this MOU will be subject to amendment to this MOU or entry into force of a new MOU. No funds will be transferred between the Parties under this MOU. The U.S. dollar will be the reference currency for the Project.

5.3. The Parties recognize that approximately 2,350,000 U.S. dollars were expended by the U.S. DoD to generate the Background Information that will be transferred to MoD in accordance with Article III (Scope of Work and Sharing of Tasks) of this MOU.

5.4. The Parties will use their best efforts to perform, or to have performed, the work specified in Article III (Scope of Work and Sharing of Tasks) of this MOU and fulfill all the obligations under this MOU within the estimated cost.

5.5. Administrative costs associated with holding of meetings will be paid for by the Party hosting the meetings.

5.6. Costs associated with any unique national requirement of a Party will be borne entirely by that Party.

5.7. A Party will promptly notify the other Party if available funds are not adequate to fulfill its obligations under this MOU. If a Party notifies the other Party that it is terminating or reducing its funding for this Project, both Parties will immediately consult with a view toward continuation on a modified basis.

5.8. All obligations of the Parties will be subject to the availability of their respective appropriated funds for the Project.

ARTICLE VI

CONTRACTING PROVISIONS

6.1. If either Party determines that Contracting is necessary to fulfill that Party's obligations under Article III (Scope of Work and Sharing of Tasks) of this MOU, that Party will contract in accordance with its respective national laws, regulations, and procedures.

6.2. When one Party individually Contracts to undertake a task under this MOU, it will be solely responsible for its own Contracting, and the other Party will not be subject to any liability arising from such Contracts without its written consent.

6.3. For all Contracting activities performed by either Party, the PM will, upon request, provide a copy of all statements of work for information purposes prior to the issuance of solicitations.

6.4. Each Party's Contracting Officer will negotiate to obtain the rights to use and disclose Technical Information required by Article VIII (Disclosure and Use of Technical Information) of this MOU. Each Party's Contracting Officer will insert into its prospective Contracts (and require its subcontractors to insert in subcontracts) suitable provisions to satisfy the requirements of this MOU, including Article VIII (Disclosure and Use Of Technical Information), Article IX (Controlled Unclassified Information), Article XI (Security), Article XII (Sales and Transfers), and Article XVII (General Provisions) including suitable provisions that ensure compliance with the Party's export control laws and export control regulations. During the Contracting process, each Party's Contracting Officer will advise Prospective Contractors of their obligation to notify the Contracting Officer immediately if they are subject to any license or agreement that will restrict that Party's freedom to disclose information or permit its use. The Contracting Officer will also advise Prospective Contractors to employ their best efforts not to enter into any new agreement or arrangement that will result in restrictions.

6.5. In the event a Party's Contracting Officer is unable to secure adequate rights to use and disclose Technical Information as required by Article VIII (Disclosure and Use of Technical Information) of this MOU, or is notified by Contractors or

potential Contractors of any restrictions on the disclosure and use of information, that Party's PM will notify the other Party's PM of the restriction(s).

6.6. The transfer of export-controlled information furnished by one Party will be authorized by the Government of the furnishing Party only to those Contractors of the other Party who will limit the end use of the information received for the sole purpose of furthering the purposes authorized under this MOU. The Parties will establish legally binding arrangements with their Contractors to ensure that their Contractors do not retransfer or otherwise use export controlled information for any purpose other than the purposes authorized under this MOU. Such legally binding arrangements will also provide that the Contractor will not retransfer the export-controlled information to another Contractor without the Government of the furnishing Party's consent.

6.7. Each Party's PM will promptly advise the other Party's PM of any cost growth, schedule delay, or performance problems of any Contractor for which its Contracting Agency is responsible.

6.8. Each Party's Contracting Agency will insert into its prospective Contracts (and require its Contractors to insert in subcontracts) provisions that satisfy the requirements of this MOU, including Article VIII (Disclosure and Use of Technical Information), Article IX (Controlled Unclassified Information), Article XI (Security), Article XII (Sales and Transfers), and Article XVII (General Provisions), including the export control provisions in accordance with this MOU, in particular paragraphs 6.9. and 6.10. of this Article.

6.9. Each Party will legally bind its Contractors to a requirement that the Contractor will not retransfer or otherwise use export-controlled information furnished by the other Party for any purpose other than the purposes authorized under this MOU. The Contractor will also be legally bound not to retransfer the export-controlled information to another Contractor or subcontractor unless that Contractor or subcontractor has been legally bound to limit use of the information to the purposes authorized under this MOU. Export-controlled information furnished by one Party under this MOU may only be retransferred by the other Party to its Contractors if the legal arrangements required by this paragraph have been established.

ARTICLE VII

PROJECT EQUIPMENT

7.1. Each Party may loan without charge to the other Party Project Equipment identified as being necessary for implementation of the Project. Project Equipment is loaned only for the purposes set forth in Article II (Objectives) of this MOU.

7.2. The Project Equipment to be loaned will be listed in the Management Plan as provided in subparagraph 4.3.2 of Article IV (Management (Organization and Responsibility)) of this MOU. The Project Equipment list will be prepared by the PMS for signature by the JSC after appropriate national approvals have been obtained.

7.3. The providing Party will loan the Project Equipment for the loan period identified in the Project Equipment list, which may be extended by written agreement, provided the period may not exceed the duration of this MOU.

7.4. The providing Party, at its expense, will deliver the Project Equipment to the receiving Party at the location(s) agreed upon by the PMS. Possession of the Project Equipment will pass from the providing Party to the receiving Party at time of receipt. Any further transportation is the responsibility of the receiving Party.

7.5. The receiving Party will inspect and inventory the Project Equipment upon receipt. The receiving Party will also inspect and inventory the Project Equipment prior to its return.

7.6. It is intended that the receiving Party will expend/consume without reimbursement the Project Equipment specified as consumable in the Project Equipment list as necessary for the success of the Project. Therefore, such Project Equipment is not expected to be returned to the providing Party. The receiving Party will provide written notice of consumption or expenditure of such Project Equipment. In the event consumption or expenditure does not occur, the receiving Party will return the Project Equipment, at its expense, to the providing Party at a location to be decided.

7.7. Upon expiration of the loan period (taking into account any approved extension by the providing Party), the receiving Party will return, at its expense, the non-consumable Project

Equipment to the providing Party at the locations(s) agreed by the PMs. Any further transportation is the responsibility of the providing Party.

7.8. Project Equipment will remain the property of the providing Party. In addition, the receiving Party will maintain Project Equipment in good order, repair, and operable condition and will return it in operable condition and in as good condition as received, normal wear and tear excepted, unless the providing Party has approved in the Project Equipment list the expenditure or consumption of Project Equipment. The receiving Party will bear the cost of any damage to (other than normal wear and tear) or loss of Project Equipment loaned to it that is not approved for expenditure or consumption. If the Project Equipment is lost while in the custody of the receiving Party, the receiving Party will issue a certificate of loss to the providing Party and will pay the replacement value as computed pursuant to the providing Party's national laws, regulations and procedures. In no event will such cost exceed replacement cost less an amount determined to represent reasonable wear and tear for the loan period.

7.9. The providing Party will make every effort to ensure that the Project Equipment is furnished in a serviceable and usable condition according to its intended purpose. However, the providing Party will make no warranty or guarantee of fitness of the Project Equipment for a particular purpose or use, and make no commitment to alter, improve, or adapt the Project Equipment or any part thereof.

7.10. The providing Party will furnish the receiving Party such Technical Information as is necessary to enable the Project Equipment to be used.

7.11. Sales and transfers of Project Equipment are subject to Article XII (Sales and Transfers) of this MOU. The Parties will ensure, by all reasonable means, the protection of Intellectual Property Rights in Project Equipment.

7.12. There will be no jointly-acquired Project Equipment under this MOU.

ARTICLE VIII

DISCLOSURE AND USE OF TECHNICAL INFORMATION

8.1. General.

- 8.1.1. This Article is in accordance with the Agreement between the Government of the United States of America and the Government of Japan to Facilitate Interchange of Patent Rights and Technical Information for Purposes of Defense, dated March 22, 1956.
- 8.1.2. Both Parties recognize that successful collaboration will depend on full and prompt exchange of information necessary for carrying out the Project. The Parties intend to acquire sufficient Technical Information and rights to use such information to execute the MOU. The nature and amount of Technical Information to be acquired will be consistent with the purposes of the MOU.
- 8.1.3. Transfer of Technical Information will be consistent with the furnishing Party's applicable export control laws and regulations. Unless otherwise restricted by duly authorized officials of the furnishing Party at the time of transfer to the other Party, all export-controlled information furnished by that Party to the other Party may be retransferred to the other Party's Contractors, subcontractors, Prospective Contractors, and prospective subcontractors, subject to the requirements of paragraphs 6.9. and 6.10. of Article VI (Contracting Provisions) of this MOU. Export-controlled information may be furnished by Contractors, subcontractors, Prospective Contractors, and prospective subcontractors of one Party's nation to the Contractors, subcontractors, Prospective Contractors, and prospective subcontractors of the other Party's nation pursuant to this MOU, subject to the conditions established in licenses or other approvals issued by the Government of the former Party in accordance with its applicable export control laws and regulations.

8.2. Foreground Information.

8.2.1. Disclosure: Foreground Information generated by a Party's military or civilian employees or generated and delivered by Contractors will be disclosed without charge to both Parties.

8.2.2. Use:

8.2.2.1. Notwithstanding the provisions of paragraph 8.5. of this Article, each Party may use the Foreground Information without charge only for its Defense Purposes. Except as provided in subparagraph 8.2.2.2. of this Article, however, if a Party wants to use this Foreground Information for any purpose other than a Defense Purpose, prior written authorization from the other Party's Government is required.

8.2.2.2. A Party whose military or civilian employees generated or whose Contractors generated and delivered the Foreground Information generated by the work allocation under this MOU without using Foreground or Background Information generated or provided by the other Party, will retain all of its rights of use thereto. Any sale or transfer to a Third Party will be subject to the provision of Article XII (Sales and Transfers) of this MOU.

8.3. Background Information.

8.3.1. Disclosure: Each Party, upon request, will disclose to the other Party any relevant Background Information in its possession or generated or delivered by its Contractors, provided that:

8.3.1.1. The Background Information is "necessary to" or "useful in" the Project. The furnishing Party will determine whether it is "necessary to" or "useful in" the Project;

- 8.3.1.2. The Background Information may be disclosed without incurring liability to holders of Intellectual Property Rights;
 - 8.3.1.3. Disclosure is consistent with national disclosure policies and regulations of the furnishing Party; and
 - 8.3.1.4. Any disclosure or transfer of such Background Information to Contractors is consistent with the furnishing Party's export control laws and export control regulations.
- 8.3.2. Use: Background Information furnished by one Party may be used without charge by the other Party only for the purposes of this MOU; but may be subject to charges or restrictions by holders of Intellectual Property Rights; however, the furnishing Party will retain all its rights with respect to such Background Information. If a Party wants to use the Background Information, furnished by the other Party, for purposes other than the purposes of this MOU, prior written authorization from the furnishing Party is required and any necessary license(s) must be obtained.
- 8.4. Special Use of Information:
The U.S. DoD will provide Background Information described in Article III (Scope of Work and Sharing of Tasks) of this MOU, such as the M256A1 chemical agent detector TDP and other information. Specific details of the Background Information to be provided will be described in the Management Plan. The Background Information generated prior to the MOU entering into force that is transferred under this Project will be treated as Foreground Information.
- 8.5. Intellectual Property Rights:
- 8.5.1. As long as the right to Intellectual Property Rights belongs to either Party, the ownership of Intellectual Property Rights will be determined in accordance with the following:

8.5.1.1. The right (as between the Parties) to Intellectual Property Rights in all countries of the world will belong to the Party who created the intellectual property in the performance of its work allocation under this MOU without using the Foreground or Background Information generated or provided by the other Party.

8.5.1.2. The right (as between the Parties) to Intellectual Property Rights in all countries of the world will belong to the Party (hereinafter referred to as "the creating Party") who created the intellectual property in the performance of its work allocation under this MOU by using the Foreground or Background Information generated or provided by the other Party (hereinafter referred to as "the providing Party"). In any country where the creating Party declines to obtain such rights to Intellectual Property Rights, the providing Party has the right to do so. Royalties on Intellectual Property Rights under this subparagraph for each intellectual property interest created will be shared in accordance with the decision of the Parties.

8.6. Patents.

8.6.1. Where a Party owns title to a Project Invention, or has the right to receive title to a Project Invention, that Party will notify the other Party in writing regarding the filing of any Patent application for such Project Invention within three months of such filing. The Party that has or receives title to such Project Invention may, in other countries, file, cause to be filed, or provide the other Party with the opportunity to file on behalf of the Party holding title, or its Contractors, as appropriate, Patent applications covering that Project Invention. If a Party having filed or caused to be filed a Patent application decides to stop prosecution of the application, that Party will notify the other Party of that decision and permit the other Party to continue the prosecution.

- 8.6.2. The other Party will be furnished with copies of Patent applications filed and Patents granted with regard to Project Inventions.
- 8.6.3. Whether a Project Invention is conceived or made by a Party's military or civilian employees or by its Contractors, the other Party will be furnished a non-exclusive, irrevocable, royalty-free license to practice or have practiced, by or on behalf of that Party, throughout the world for Defense Purposes, any Project Invention.
- 8.6.4. In addition to subparagraphs 8.6.1. through 8.6.3 above, for Intellectual Property Rights described in subparagraph 8.5.1.2. of this Article, the creating Party will notify the other Party within three months of the creation of any Project Invention. When the creating Party declines to seek Patent application for a Project Invention in any country in accordance with subparagraph 8.5.1.2. of this Article, the creating Party will notify the providing Party in writing of that decision within three months of the creation of such Project Invention, and before any disclosures of such Project Invention, and the creating Party will not disclose such Project Invention for three months after notification. In the case of such notification, the providing Party will have the right to seek such Patent application in its own behalf and the creating Party will provide to the providing Party, without charge, such documentation as required by the other Party to establish the Patent rights.
- 8.6.5. For Project Inventions that are created jointly by military or civilian personnel of both Parties, both Parties will have title to the Project Invention or the right to receive title to the Project Invention. The Parties will jointly decide which Party will prosecute, or to have prosecuted on their behalf, Patent applications to secure rights granted under this Article in each of the Parties' countries. The Parties will jointly decide in which other countries Patent applications will be filed and

how any resulting income will be divided between the Parties.

- 8.7. Proprietary Information: All Technical Information that is subject to disclosure and use restrictions with respect to Intellectual Property Rights will be identified and marked, and it will be handled as Controlled Unclassified Information, depending on the PPI.

ARTICLE IX

CONTROLLED UNCLASSIFIED INFORMATION

9.1. Except as otherwise provided in this MOU or authorized in writing by the originating Party, Controlled Unclassified Information provided or generated pursuant to this MOU will be controlled as follows:

- 9.1.1. Such information will be used only for the purposes authorized for use of Technical Information as specified in Article VIII (Disclosure and Use of Technical Information) of this MOU.
- 9.1.2. Access to such information will be limited to personnel whose access is necessary for the permitted use under subparagraph 9.1.1. of this Article, and will be subject to the provisions of Article XII (Sales and Transfers) of this MOU.
- 9.1.3. Each Party will take all lawful steps, which may include national classification, available to it to keep such information free from further disclosure (including requests under any legislative provisions), except as provided in subparagraph 9.1.2. of this Article, unless the originating Party consents to such disclosure. In the event of unauthorized disclosure, or if it becomes probable that the information may have to be further disclosed under any legislative provision, immediate notification will be given to the originating Party.

9.2. To assist in providing the appropriate controls, the originating Party will ensure that Controlled Information is appropriately marked to ensure its "in confidence" nature. The Parties' export-controlled information will be marked in accordance with the applicable Party's export control markings as documented in the PPI. The Parties will also decide, in advance and in writing, on the markings to be placed on any other types of Controlled Unclassified Information and describe such markings in the PPI.

9.3. Controlled Unclassified Information provided or generated pursuant to this MOU will be handled in a manner that ensures control as provided for in paragraph 9.1 of this Article.

9.4. Prior to authorizing the release of Controlled Unclassified Information to Contractors, the Parties will ensure the Contractors are legally bound to control such information in accordance with the provisions of this Article.

ARTICLE X

VISITS TO ESTABLISHMENTS

10.1. Each Party will permit visits to its Government establishments, agencies and laboratories, and Contractor industrial facilities by employees of the other Party or by employees of the other Party's Contractors, provided that the visit is authorized by both Parties and the personnel of each Party and/or its Contractors have any necessary and appropriate security clearances and a need-to-know.

10.2. All visiting personnel will be required to comply with security regulations of the host Party. Any information disclosed or made available to visitors will be treated as if supplied to the Party sponsoring the visiting personnel, and will be subject to the provisions of this MOU.

10.3. Requests for visits by personnel of one Party to a facility of the other Party will be coordinated through official channels, and will conform with the established visit procedures of the host country. Requests for visits will bear the name of the Project.

10.4. Lists of personnel of each Party required to visit on a recurring basis, facilities of the other Party will be submitted through official channels.

ARTICLE XI

SECURITY

11.1. It is the intent of the Parties that the Project carried out under this MOU will be conducted at the unclassified level. No Classified Information will be provided or generated under this MOU.

11.2. Prior to the transfer of any export-controlled Technical Information or Materials between the Parties, the PMs will jointly prepare a PPI for the Project. The PPI will describe the methods by which Technical Information and Materials will be classified, marked, used, transmitted, and safeguarded. The PPI will be reviewed and forwarded to the JSC for approval, and will be applicable to all Government and Contractor personnel participating in the Project.

ARTICLE XII

SALES AND TRANSFERS

12.1. A Party will retain the right to sell, transfer title to, disclose, or transfer possession of Foreground Information generated solely in performance of its portion of the work allocation under Article III (Scope of Work and Sharing of Tasks) of this MOU without using the Foreground or Background Information generated or provided by the other Party, or any item produced by the Party either wholly or in part from such Foreground Information.

12.2. A Party will not:

12.2.1. Sell or transfer title to Project Equipment or Foreground or Background Information generated or provided by the other Party.

12.2.2. Disclose, or transfer possession of Project Equipment or Foreground or Background Information generated or provided by the other Party, to another government or any person or entity of another country, or to anyone not personnel or an agent of that Party, without the prior written consent of the Party that provided such equipment or information. The providing Party will be solely responsible for authorizing such transfers and, as applicable, specifying the method and conditions for implementing such transfers.

12.3. When a Party generates Project Equipment or Background or Foreground Information by using Foreground or Background Information generated or provided by the other Party, that Party will not:

12.3.1. Sell or transfer title to such Project Equipment or Background or Foreground Information.

12.3.2. Disclose, or transfer possession of such Project Equipment or Background or Foreground Information to another government or any person or entity of another country or to anyone not personnel or an agent of that Party, without the prior written consent of the other Party's Government. Furthermore, that Party will not permit any such sale, disclosure, or transfer, including by the

owner of the item, without the prior written consent of the other Party's Government. Such consent will not be given unless the government of the intended recipient agrees in writing that it will:

12.3.2.1. Not retransfer, or permit the further retransfer of, any equipment or information provided.

12.3.2.2. Use, or permit the use of, the equipment or information provided only for the purposes specified by the Parties.

12.4. In the event questions arise regarding the origin of Foreground Information or any item produced either wholly or in part from such Foreground Information, the matter will be brought to the immediate attention of the other Party's PM. If necessary, the matter will be referred to the JSC for resolution prior to any sale, disclosure, or other transfer of such Foreground Information or any item produced either wholly or in part from such Foreground Information.

ARTICLE XIII

CLAIMS AND LIABILITY

13.1. Claims arising out of activities undertaken in execution of the Project will be dealt with as follows:

- 13.1.1. The Parties waive all their claims, other than contractual claims and claims for unauthorized loss of or damage to loaned Project Equipment under Article VII (Project Equipment) of this MOU, against each other, and against the personnel of each other, for damage to or loss of property owned by them which was caused by their personnel in the performance of official duties.
- 13.1.2. The Parties waive their claims against each other and the other Party's personnel for injury or death suffered by any of its personnel while such personnel were engaged in the performance of official duties.
- 13.1.3. If, however, such injury, death, damage, or loss referred to in subparagraphs 13.1.1. or 13.1.2. of this Article, results from willful misconduct of a Party's personnel, then the cost of any liability will be borne by that Party alone.
- 13.1.4. Nothing herein will be construed as waiving the claims or suits of personnel of a Party or any other persons that might exist under applicable national laws and regulations.
- 13.1.5. Claims, other than contractual claims and claims for unauthorized loss of or damage to loaned Project Equipment under Article VII (Project Equipment) of this MOU, not covered by subparagraphs 13.1.1. and 13.1.2. of this Article, will be dealt with by each Party in accordance with respective national laws and regulations.

13.2. Claims arising under or related to any Contract will be resolved in accordance with the provisions of the Contract. The non-Contracting Party will not be subject to any liability arising from the Contracting Party's Contracts without its written consent.

ARTICLE XIV

ARMS AND MILITARY TECHNOLOGIES

14.1. If particular Technical Information that will be transferred under this MOU from Japan to the United States can possibly be considered as an arm or military technology (defined in the 2006 Exchange of Notes), the matter may be presented to the JSC, with the Party's technical explanation for discussion prior to referral to the Joint Arms and Military Technology Commission established under the 2006 Exchange of Notes.

14.2. If a determination is made by the Government of Japan that particular Technical Information that will be transferred under this MOU is an arm or military technology, the transfer of such particular Technical Information from Japan to the United States will then be pursuant to the 2006 Exchange of Notes and its detailed arrangements. A research and development non-recurring cost recoupment fee, as may be anticipated by the said detailed arrangements, will not be charged for items or information so transferred. The rights to receive changes, modifications, or improvements, and to receive financial compensation in lieu of the same, as may be anticipated by the said detailed arrangements, are hereby waived.

14.3. Recognizing that both Parties may want to pursue further development unilaterally, subsequent developments by either Party that do not depend essentially upon the application of the Foreground Information obtained from the other Party will be deemed to be independently developed.

ARTICLE XV

CUSTOMS DUTIES, TAXES, AND SIMILAR CHARGES

15.1. Customs duties, import and export taxes, and similar charges will be administered in accordance with each Party's respective laws and regulations. Insofar as existing national laws and regulations permit, the Parties will endeavor to ensure that readily identifiable customs duties, import and export taxes and similar charges, as well as quantitative or other restrictions on imports and exports, are not imposed in connection with work carried out under this Project.

15.2. Each Party will use its best efforts to ensure that customs duties, import and export taxes, and similar charges are administered in a manner favorable to the efficient and economical conduct of the work.

ARTICLE XVI

SETTLEMENT OF DISPUTES

16.1. Disputes between the Parties regarding the implementation or interpretation of this MOU will be resolved by consultation between the Parties. In the event of a dispute which cannot be resolved through consultation, such disputes will be submitted for final decision to the appropriate levels of each Government. Disputes will not be referred to another country or any person or entity of another country or to an international tribunal for settlement.

ARTICLE XVII

GENERAL PROVISIONS

17.1. The obligations of the Parties under this MOU are subject to their national laws and regulations including their export control laws and export control regulations.

17.2. All communications and other documents required will be submitted in the English language or the Japanese language. Normally, Technical Information exchanged between the Parties will be in the English language and documents submitted to the JSC for review/approval will be in the English language.

ARTICLE XVIII

ENTRY INTO FORCE, DURATION, AMENDMENT, AND TERMINATION

18.1. This MOU, which consists of the Preamble and eighteen (18) Articles, will enter into force upon signature by both Parties and will remain in force for four (4) years unless terminated or extended. This MOU may be extended by written agreement of the Parties.

18.2. This MOU may be amended by the written agreement of the Parties. All amendments to this MOU made in a subsequent written agreement of the Parties shall be equally binding on the Parties under the authority of the Exchange of Notes concerning the Palm-Sized Automated Chemical Agent Detector (PACAD) Cooperative Research Project, dated (March 4, 2008).

18.3. This MOU may be terminated at any time upon the written agreement of the Parties. In the event both Parties agree to terminate this MOU, the Parties will consult prior to the date of termination to ensure termination on the most economical and equitable terms.

18.4. Either Party may terminate this MOU upon 90 days written notification to the other Party. Such notice will be the subject of immediate consultation by the JSC to decide upon the appropriate course of action. In the event of such termination, the following rules apply:

18.4.1 The terminating Party will continue participation, financial or otherwise, up to the effective date of termination.

18.4.2 Each Party will pay the costs it incurs as a result of termination.

18.4.3 All Technical Information and rights therein received under the provisions of this MOU prior to the termination will be retained by the Parties, subject to the provisions of this MOU.

18.5. This MOU will automatically terminate if the Exchange of Notes concerning the Palm-Sized Automated Chemical Agent Detector (PACAD) Cooperative Research Project is terminated.

18.6 The respective rights and responsibilities of the Parties regarding Article VII (Project Equipment), Article VIII (Disclosure and Use of Technical Information), Article IX (Controlled Unclassified Information), Article XII (Sales and Military Technologies, or other technologies), or Article XIV notwithstanding termination or expiration of this MOU.

18.7. Before this MOU is terminated or expires, points of contact will be established respectively to coordinate potential issues that may come up after the termination or expiration of this MOU.

IN WITNESS WHEREOF, the undersigned, being duly authorized have signed this MOU concerning the PALM-SIZED AUTOMATED CHEMICAL AGENT DETECTOR (PACAD) COOPERATIVE RESEARCH PROJECT.

DONE, in duplicate, in the English language.

FOR THE DEPARTMENT OF DEFENSE
OF THE UNITED STATES OF
AMERICA:



Signature

Mr. Keith B. Webster

Name

Deputy Assistant Secretary of
the Army for Defense Exports
and Cooperation

Title

4 March 2008

Date

Washington, DC

Location

FOR THE MINISTRY OF DEFENSE OF
JAPAN:



Signature

Kenshu NAGAOKA

Name

Director General,
Bureau of Finance and Equipment

Title

4 March 2008

Date

Tokyo

Location