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| RECORDATION FORM COVER SHEET | | |
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| To the Director of the U.S. patent and Trademark Office. 1. Name of conveying party(ies) Execution Date(s) | Please record the attached documents or the new address(es) below 2. Name and address of receiving party(ies) | |
| Robert C. Gibbs | | |
| Michael J. Walsh | Name: The United States of America as represented | |
| Maria C. Santos | by the Department of the Navy. | |
| Execution Date(s) 14 February 2005 | Internal Address: Naval Undersea Warfare Center Office of Counsel | |
| Addition names(s) of conveying party(ies) Yes No | Bldg 112T | |
| 3. Nature of conveyance: | Street Address: 1176 Howell Street | |
| - S. Nature of conveyance. | City: Newport | |
| Assignment | City. Livewport | |
| Security Agreement | State: Rhode Island | |
| Government Interest Assignment Executive Order 9424, Confirmatory License | Country: <u>USA</u> Zip: <u>02841-1708</u> | |
| Other: | Additional name(s) & address(es) attached? Yes No | |
| A 4 - 11-41 | This document is being filed together with a new application | |
| 4. Application or patent numbers(s) 11/147,650 A. Patent Application No. (s) | B. Patent (s) | |
| | _ | |
| Additional m | umbers attached? Yes No | |
| Name and address to whom correspondence | 6. Total number of application and patents | |
| Concerning document should be mailed: | Involved: | |
| Name: Office of Counsel. Bldg 112T | mvorved. | |
| Internal Address: <u>Naval Undersea Warfare Center.</u> <u>Division Newport</u> | 7. Total Fee (37 CFR 1.21(H) & 3.41) \$40.00 | |
| Street Address: 1176 Howell Street | Authorized to be charged by credit card Authorized to be charged to deposit account | |
| | Enclosed | |
| City: Newport | None required (government interest not affecting title. | |
| State: Rhode Island Zip: 02841-1708 | | |
| Phone Number 401 922 4726 | 8. Payment Information | |
| Phone Number: 401-832-4736 | a. Credit Card Last 4 Numbers: | |
| Fax Number: 401-832-1231 | Expiration Date: | |
| Email Address: | | |
| | b. Deposit Account Number <u>44-9590</u> 50-3256 | |
| | Authorized User Name <u>NUWC</u> | |
| 9. Signature: Johns M. Kasis) | He 23 June 2005 Date | |
| JAMES M. KASISCHKE Name of Person Signing | Total number of pages including cover sheet, attachments, and documents | |
| Documents to be recorded (including cover Mail Stop Assignment Recordation Services, Direct | r sheet) should be faxed to (703) 306-5995, or mailed to or of the USPTO, P.O. Box 1450, Alexandria, V.A. 22313-1450 | |

PATENT

REEL: 016432 FRAME: 0657

ASSIGNMENT

WHEREAS, the Government of the United States, represented by the Secretary of the Navy and hereinafter referred to as the Government, is desirous of acquiring an assignment of the invention disclosed in said application and other rights and benefits herein granted; and

WHEREAS, the conditions under which the invention was made are such as to entitle the Government under Paragraph 1(a) of Executive Order 10096, to the entire right, title and interest therein, including foreign rights; and

WHEREAS, as to foreign rights, it is the policy of the Government to obtain an option to exercise such rights;

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration the receipt of which is hereby acknowledged, we hereby assign and transfer to the Government the entire right, title and interest in and to said invention within the United States of America, its territories and possessions, and the entire right, title and interest in and to said application and any continuation, division, or substitution thereof, and such Letters Patent as may issue therefrom and any reissue or extensions thereof, said invention, application and Letters Patent to be held by the Government to the end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me had this assignment not been made.

We do hereby also grant unto the Government, the option to take the entire right, title and interest in the invention and all patent applications or other forms of protection thereon in all countries foreign to the United States in which the Government may file, or cause to be filed, applications for Letters Patent or other forms of protection, without payment of any consideration; provided, however, that this grant of an option to take foreign rights in the invention, or applications or other forms of protection thereon, shall have force and effect only as to such applications filed in foreign countries within six months of the filing date of any application for United States Letters Patent covering the invention, or within six months from the declassification of the invention, whichever is later, and that all foreign rights not exercised under the option are left to me subject to a nonexclusive, irrevocable, royalty-free license to the Government in any patent or other form of protection which may issue on said invention in any foreign country, including the power to issue sub-licenses for use in behalf of the Government and/or in furtherance of the foreign policies of the Government.

We hereby further agree to make, execute, and deliver to the Government, any and all papers, documents, affidavits, statements, or other instruments that may be necessary in the prosecution of the application and of any continuation, division or substitution of the application, or any application for reissue or extension of said Letters Patent, and to assist the Government in every way in protecting the invention as may be requested, provided that any expense arising through such efforts will be paid by the Government.

| IN TESTIMONY WHEREOF, we have | e set my hand and affixed my seal. | |
|-------------------------------|------------------------------------|------|
| 5/23/05 | Int & M | Seal |
| Date | Robert C. Gibbs | |
| 5/23/05 | Minhael J. Walsh | Seal |
| Date | Michael J. Walsh | |
| 5/23/05 | Maria Exants | Seal |
| Date / | Maria C. Santos | |
| | F | |

PATENT REEL: 016432 FRAME: 0658

RECORDED: 06/29/2005