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Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0001	Communication	(4)	(19)(4)	\$2,246,237.00
	The contractor shall complete the tasks in accordance with Statement of Work titled "Synthetic Multifunctional Materials for Power Transmission and Communication (b)(4)			

ITEM NO	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
000101	Funding for CLIN 0001 AO No. W718/00	\$0.00	\$0.00	\$0.00
	ACRN AA	<u> </u>		\$891,869.00

Page 3 of 30

ITEM NO	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0002	Reports and Deliverables	\$0.00	\$0.00	\$0.00
	The contractor shall provide the reports and deliverables for the "Synthetic Multifunctional Materials for Power Transmission and Communication effort in accordance with the requirements set forth in this contract.			NSP

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Section C - Descriptions and Specifications

CLAUSES INCORPORATED BY FULL TEXT

C-1 Scope of Work

(a) The Contractor shall furnish the necessary personnel, materials, facilities and other services as may be required to perform Contract Line Item Number (CLIN) 0001 & 0002 in accordance with the Statement of Work, Attachment 1 hereto, and as specified in the Contractor's proposal entitled "Synthetic Multifunctional Materials for Power Transmission and Communication dated March 1, 2007, copies of which are in possession of both parties.

(b) In the event of an inconsistency between the provisions of this contract and the Contractor's proposal, the inconsistency shall be resolved by giving precedence in the following order: (1) the contract, (2) the attachments to the contract, and then (3) the Contractor's proposal. (end of clause)

C-2 Reports and Other Deliverables

(a) The Contractor shall submit the following reports and other deliverables in accordance with the delivery schedule set forth in Section F. Reports and other deliverables shall be submitted in writing, as defined in FAR 2.101, or as specified below:

(1) QUARTERLY R&D STATUS REPORT

This brief narrative, not to exceed five pages in length, shall contain the following:

- (i) For first report only; the date work actually started.
- (ii) Description of progress during the reporting period, supported by reasons for any change in approach reported previously
- (iii) Planned activities and milestones for the next reporting period.
- (iv) Description of any major items of experimental or special equipment purchased or constructed during the reporting period.
- (v) Notification of any changes in key personnel associated with the contract during the reporting period.
- (vi) Summary of substantive information derived from noteworthy trips, meetings, and special conferences held in connection with the contract during the reporting period.
- (vii) Summary of all problems or areas of concern.
- (viii) Related accomplishments since last report.
- (ix) Fiscal status, to include reporting of summary level financial data in the following format: (next page)

Page 5 of 30

		PROGR	AM FINANCIAL S	STATUS			
Work Breakdown		Cumulative to Date		At Completion			
Structure or Task Element	Planned Expend	Actual Expend	% Budget Compl	At Compl	Latest Revised Estimate	Remarks	
Subtotal: Management Reserve:							
Or Unallocated Resources:							
TOTAL:						=	

QUARTERLY R&D STATUS REPORT

Note: Budget at completion changes only with the amount of any scope changes. (Not affected by underrun or overrun)

Based on currently authorized work:

Is current funding sufficient for the current fiscal year (FY)? (Explain in narrative if "NO")

YES NO

What is the next FY funding requirement at current anticipated levels?

\$_____

Have you included in the report narrative any explanation of the above data and are they cross-referenced?

YES NO

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(2) FINAL REPORT

This report shall document the results of the complete effort and should be delivered at the completion of the contract. If the Government chooses to exercise the options under this contract, the due date for the final report is extended accordingly. Title pages shall include a disclaimer worded substantially as follows:

"The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies, either expressly or implied, of the Defense Advanced Research Projects Agency or the U.S. Government."

The Final Technical Report summary shall include:

Task Objectives Technical Problems General Methodology (i.e., literature review, laboratory experiments, surveys, etc.) Technical Results Important Findings and Conclusions Significant Hardware Development Special Comments Implications for Further Research Standard Form 298, September 1988

(b) Reports delivered by the Contractor in the performance of the contract shall be considered "Technical Data" as defined in Section I contract clauses entitled "Rights in Technical Data – Noncommercial Items" and "Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation."

(c) Bulky Reports shall be mailed by other than first-class mail unless the urgency of submission requires use of first-class mail. In this situation, one copy shall be mailed first-class and the remaining copies forwarded by less than first-class.

(d) All papers and articles published as a result of DARPA sponsored research shall include a statement reflecting the sponsorship. In addition, a bibliography of the titles and authors of all such papers are to be included in the Final Technical Report

(1) The cover or title page of each of the above reports or publications prepared, will have the following citation:

Sponsored by Defense Advanced Research Projects Agency Defense Sciences Office (DSO) Program: Communication and Power Transmission ARPA Order No. W718/00, Program Code: 7620 Issued by DARPA/CMO under Contract No. HR0011-07-C-0058

(2) The title page shall include a disclaimer worded substantially as follows:

"The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the official policies, either expressly or implied, of the Defense Advanced Research Projects Agency or the U.S. Government."

(3) All technical reports must (i) be prepared in accordance with American National Standards Institute (ANSI) Standard Z39.18; (ii) include a Standard Form 298, August 1998; and (iii) be marked with an appropriate Distribution Statement.

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(end of clause)

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Section D - Packaging and Marking

CLAUSES INCORPORATED BY FULL TEXT

D-1 Packaging and Marking

(a) All items shall be preserved, packaged, packed and marked in accordance with best commercial practices to meet the packing requirements of the carrier, and to ensure safe delivery at destination.(end of clause)

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Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government
0002	Destination	Government	Destination	Government

CLAUSES INCORPORATED BY REFERENCE

52.246-8	Inspection Of Research And Development Cost	MAY 2001
	Reimbursement	

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Section F - Deliveries or Performance

CLAUSES INCORPORATED BY REFERENCE

52.247-34 F.O.B. Destination

NOV 1991

CLAUSES INCORPORATED BY FULL TEXT

F-1 Term of Contract

(a) The term of the contract commences on the effective date of the contract and continues through 18 months thereafter.

(end of clause)

F-2 Reports and Other Deliverables

(a) Delivery of all reports and other deliverables shall be made to the addressee specified in F-3 entitled "Report Distribution" in accordance with the following:

Item No.	Description	Due Date (on or before)
001	Quarterly Reports	Quarterly
002	FY 07 Annual Report	15 days after end of fiscal year
003	Final Report	End Date of Contract
004	SWCPT demonstration of (b)(4)	15 March 2008
005	SWCPT demonstration of point to multi-point power and	15 September 2008
006	SWCPT demonstration of Task 5 applications	15 December 2008

(end of clause)

F-3 Report Distribution

(a) DARPA/DSO
Attn: Dr. Leo Christodoulou, Program Manager
3701 North Fairfax Drive
Arlington, VA 22203-1714
Email: leo.christodoulou@darpa.mil

(one copy each report)

(b) DARPA/(DSO)
Attn: Riva Meade, ADPM
3701 North Fairfax Drive
Arlington, VA 22203-1714
Email: DSO_ADPM@darpa.mil
(one copy each report)

(c) DARPA/Library
3701 North Fairfax Drive
Arlington, VA 22203-1714
Email: library@darpa.mil
(one copy of the Final Technical Report)

(d) Defense Technical Information Center

 Email: TR@dtic.mil (one electronic copy of the Final Technical Report, if unclassified)

OR

(2) Attn: DTIC-BCS
 8725 John J. Kingman Road, Suite 0944
 Fort Belvoir, VA 22060-0944
 (two hard copies of the Final Technical Report if unclassified)

(e) DARPA/CMO

Attn: Thomas E. Lyon 3701 North Fairfax Drive Arlington, VA 22203-1714 Email: reportsdso@darpa.mil (one copy each report)

(f) Air Force Research Laboratory Attn: Jeffry Welsh 3550 Aberdeen Ave. SE Bldg. 472 Kirtland AFB, NM 87117-5776 Phone: (505) 846-7344 Fax: (505) 846-7877 Email: jeffry.welsh@kirtland.af.mil

(end of clause)

F-4 Notice Regarding Late Delivery

(a) In the event the Contractor anticipates difficulty in complying with the contract delivery schedule, the Contractor shall immediately notify the Contracting Officer in writing, giving pertinent details, including the date by which it expects to make delivery; PROVIDED, however, that this date shall be informational only in character and the receipt thereof shall not be construed as a waiver by the Government of any contract delivery schedule, or any rights or remedies provided by law or under this contract.

(end of clause)

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Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

CLAUSES INCORPORATED BY FULL TEXT

G-1 Procuring Office Representative

(a) The Procuring Office Representative is Thomas E. Lyon, DARPA/CMO, 3701 North Fairfax Drive, Arlington, VA 22203-1714, telephone: (703) 526-4107, fax: (703) 248-8032, e-mail: thomas.lyon@darpa.mil.

(end of clause)

G-2 Electronic Submission of Payment Requests

(a) The Contractor shall contact the contract administration office at DCMA to establish an electronic payment process for this contract. The contract administration office is located at DCMA Boeing Network and Space Systems 5301 Bolsa Ave., Building 14, MC/H014-A407, Huntington Beach, CA 90647-2099, Phone: (714) 372-1756.

G-3 Delegation of Authority for Contract Administration

 (a) DCMA Boeing Network and Space Systems, is hereby designated as the Contracting Officer's authorized representative for administering this contract in accordance with current directives.
 (end of clause)

G-4 Contracting Officer's Representative (COR)

(a) Performance of work under this contract shall be subject to the technical direction of

Jeffry Welsh Air Force Research Laboratory 3550 Aberdeen Ave. SE Bldg. 472 Kirtland AFB, NM 87117-5776 Phone: (505) 846-7344 Fax: (505) 846-7877 Email: jeffry.welsh@kirtland.af.mil

Such technical direction includes those instructions to the Contractor necessary to accomplish the Statement of Work. The COR is not otherwise authorized to make any representations or commitments of any kind on

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behalf of the Contracting Officer or the Government. The COR does not have the authority to alter the Contractor's obligations or to change the specifications of the contract.

(b) Technical direction shall not include any direction which:

(1) Constitutes additional work outside the scope of work;

(2) Constitutes a change as defined in Section I contract clause entitled "Changes";

(3) In any manner causes an increase or decrease in the total estimated cost or the time required for contract performance; or

(4) Changes any of the stated terms, conditions, or specifications of the contract. (end of clause)

G-5 Payment Instructions for Multiple Accounting Classification Citations

 (a) Payments under contract line items funded by multiple accounting classification citations shall be made from the earliest available fiscal year funding sources. The earliest assigned ACRN must be fully disbursed before making disbursements from a succeeding ACRN.
 (end of clause)

G-6 Incremental Funding

(a) This contract shall be subject to incremental funding with \$ 891,869.00 presently made available for performance under this contract. Except in accordance with the Section I clause FAR 52.232-22, "Limitation of Funds," no legal liability of the part of the Government for payment of any money in excess of this amount shall arise unless and until additional funds are made available by the Contracting Officer through a modification to this contract. (end of clause)

G-7 Payment of Cost and Fee

(a) As consideration for the proper performance of work required under this contract, the Contractor shall be paid as follows:

(1) Costs, as provided for under Section I contract clause titled "Allowable Cost and Payment" not to exceed the amount set forth as "Total Estimated Cost" in Section B, and subject further to those Section I clauses entitled "Limitation of Cost" or "Limitation of Funds".

(2) A fixed fee in the amount set forth as "Fixed Fee" in Section B, in accordance with the Section I contract clause entitled "Fixed Fee". The Contractor may bill on each invoice the amount of the fixed fee bearing the same percentage to the total fixed fee as the amount of cost billed bears to the total estimated cost.

(end of clause)

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Section H - Special Contract Requirements

CLAUSES INCORPORATED BY FULL TEXT

H-1 Contracting Officer

(a) Notwithstanding any other provision of this contract, the Contracting Officer is the only individual authorized to redirect the effort or in any way amend or modify any of the terms of this contract. If, as a result of technical discussions, it is desirable to alter contract obligations or statement of work, a modification must be issued in writing and signed by the Contracting Officer.

(end of clause)

H-2 Type of Contract

(a) This is a cost-plus fixed fee contract. (end of clause)

H-3 Public Release or Dissemination of Information

(a) There shall be no dissemination or publication, except within and between the Contractor and any subcontractors, of information developed under this contract or contained in the reports to be furnished pursuant to this contract without prior written approval of the DARPA Technical Information Officer (DARPA/TIO). All technical reports will be given proper review by appropriate authority to determine which Distribution Statement is to be applied prior to the initial distribution of these reports by the Contractor. Papers resulting from unclassified contracted fundamental research are exempt from prepublication controls and this review requirement, pursuant to DoD Instruction 5230.27 dated October 6, 1987.

(b) When submitting material for written approval for open publication as described in subparagraph (a) above, the Contractor must submit a request for public release request to the DARPA TIO and include the following information: 1) Document Information: document title, document author, short plain-language description of technology discussed in the material (approx 30 words), number of pages (or minutes of video) and document type (briefing, report, abstract, article, or paper); 2) Event Information: event type (conference, principle investigator meeting, article or paper), event date, desired date for DARPA's approval; 3) DARPA Sponsor: DARPA Program Manager, DARPA office, and contract number; and 4) Contractor's Information: POC name, e-mail and phone. Allow four weeks for processing; due dates under four weeks require a justification. Unusual electronic file formats may require additional processing time. Requests can be sent either via e-mail to tio@darpa.mil or via 3701 North Fairfax Drive, Arlington VA 22203-1714, telephone (571) 218-4235. Refer to www.darpa.mil/tio for information about DARPA's public release process.

H-4 Key Personnel

(a) The Contractor shall notify the Contracting Officer prior to making any change in key personnel. Key personnel are defined as follows:

(1) Individuals who are designated as key personnel by agreement of the Government and the Contractor during negotiations.

(b)(4)

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(b) The Contractor must demonstrate that the qualifications of the prospective personnel are equal to or better than the qualifications of the personnel being replaced. Notwithstanding any of the foregoing provisions, key personnel shall be furnished unless the Contractor has demonstrated to the satisfaction of the COR that the qualifications of the proposed substitute personnel are equal to or better than the qualifications of the personnel being replaced.

(end of clause)

H-5 Restrictions on Printing

(a) Unless otherwise authorized in writing by the Contracting Officer, reports, data, or other written material produced using funds provided by this contract and submitted hereunder shall be reproduced only by duplicating processes and shall not exceed 5,000 single page reports or a total of 25,000 pages of a multiple-page report. These restrictions do not preclude the writing, editing, preparation of manuscript or reproducible copy of related illustrative materials if required as part of this contract, or incidental printing such as forms or materials necessary to be used by the Contractor to respond to the terms of the contract. (end of clause)

H-6 Contractor Representations and Certifications

(a) The Contractor's Representations and Certifications dated April 20, 2007 are incorporated herein by reference.

(end of clause)

H-7 Insurance Schedule

(a) The Contractor shall maintain the types of insurance listed in FAR 28.307-2 (a), (b) and (c), with the minimum amounts of liability indicated therein. The types of insurance coverage listed in paragraphs (d) and (e) shall also be maintained when applicable.

(end of clause)

H-8 Travel

(a) Reimbursement for travel-related expenses shall be in accordance with the Contractor's approved travel policy. The Federal Travel Regulations, Joint Travel Regulations (JTR), and Standardized Regulations as stated in FAR 31.205-46 will be used as a guide in determining reasonableness of per diem costs. Costs for travel shall be allowable subject to the provisions of FAR 31.205-46.

(b) In connection with direct charge to the contract of travel-related expenses, the Contractor shall hold travel to the minimum required to meet the objectives of the contract, and substantial deviations from the amount of travel agreed to during contract negotiation shall not be made without the authorization of the Contracting Officer.

When applicable, the Contractor shall notify the COR of proposed travel of an employee beyond that agreed to during negotiations.

(c) Approval of the Contracting Officer shall be obtained in advance for attendance by personnel at training courses, seminars, and other meetings not directly related to contract performance if the costs for the courses, seminars, and other meetings are charged to the contract.

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(d) All foreign travel shall be authorized and approved in advance, in writing, by the Contracting Officer. Request for such travel must be submitted to the Contracting Officer at least forty-five (45) days in advance of traveler's anticipated departure date, and shall include traveler's itinerary of United States Flag Air Carriers. (end of clause)

H-9 Metric System

(a) The Defense Advanced Research Projects Agency (DARPA) will consider the use of the metric system in all of its activities consistent with operational, economical, technical and safety requirements.

(b) The metric system will be considered for use in all new designs. When it is deemed not to be in the best interest of the DoD to provide metric design, justification shall be provided.

(c) Physical and operational interfaces between metric items and U.S. customary items will be designed to assure that interchangeability and interoperability will not be affected.

(d) Existing designs dimensioned in U.S. customary units will be converted to metric units only if determined to be necessary or advantageous. Unnecessary retrofit of existing systems with new metric components will be avoided where both the new metric and existing units are interchangeable and interoperable. Normally, the system of measurement in which an item is originally designed will be retained for the life of the item.

(e) During the metric transition phase hybrid metric and U.S. customary designs will be necessary and acceptable. Material components, parts, subassemblies, and semi-fabricated material, which are of adequate or when it is otherwise specifically determined to be in the best interest of the Department of Defense. Bulk materials will be specified and accepted in metric units when it is expedient or economical to do so.

(f) Technical reports, studies, and position papers, (except those pertaining to items dimensioned in U.S. customary units) will include metric units of measurement in addition to or in lieu of U.S. customary units. With respect to existing contracts, this requirement applies only if such documentation can be obtained without an increase in contract costs.

(g) Use of the dual dimensions (i.e., both metric and U.S. customary dimensions) on drawings will be avoided unless it is determined in specific instances that such usage will be beneficial. However, the use of tables on the document to translate dimensions from one system of measurement to the other is acceptable. (end of clause)

H-10 Consent to Subcontract

(a) Pursuant to the clause of the General Provisions entitled "Subcontracts (AUG 1998)," FAR 52.244-2, the Contracting Officer hereby consents to the placement of subcontract(s) with the following firm(s)/consultant(s) at the estimated amounts specified:

NAME

TOTAL AMOUNT

(b)(4)

(b) Approval must be obtained from the Administrative Contracting Officer to increase the use or number of subcontractors from the level established in subparagraph (a).

(end of clause)

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H-11 Pre-contract Costs

 (a) The extent of allowability of costs incurred by the Contractor prior to the effective date of the contract shall be governed by the advance agreement listed in Section J as Attachment 2.
 (end of clause)

H-12 Small Business Subcontracting Plan and Goals

 (a) The Contractor's Small Business Subcontracting Plan, dated April 23 2007, is incorporated herein and made a part of this contract by reference.
 (end of clause)

H-13 Proprietary Technical Data and Computer Software

(a) Any deliverable technical data or computer software developed or generated at private expense and considered to be proprietary by the Contractor or subcontractors shall be delivered in accordance with DFARS 252.227-7013 and 252.227-7014. A list of such data and/or software is incorporated into the contract as Attachment No. 3.

(end of clause)

H-14 Export Control Clause

Should this project develop beyond fundamental research (basic and applied research ordinarily published and shared broadly within the scientific community) with military or dual-use applications the following apply:

(a) The contractor shall comply with all U. S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, in the performance of this contract. In the absence of available license exemptions/exceptions, the Contractor shall be responsible for obtaining the appropriate licenses or other approvals, if required, for exports of (including deemed exports) hardware, technical data, and software, or for the provision of technical assistance.

(b) The Contractor shall be responsible for obtaining export licenses, if required, before utilizing foreign persons in the performance of this contract, including instances where the work is to be performed on-site at any Government installation (whether in or outside the United States), where the foreign person will have access to export-controlled technical data or software.

(c) The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of licenses and license exemptions/exceptions.

(d) The Contractor shall be responsible for ensuring that the provisions of this clause apply to its subcontractors.

(end of clause)

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Section I - Contract Clauses

CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	JUL 1995
	Cancellation, Rescission, and Recovery of Funds for Illegal	
52.203-8	or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
	Limitation On Payments To Influence Certain Federal	SEP 2005
52.203-12	Transactions	SEF 2003
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting	SEP 2006
	With Contractors Debarred, Suspended, or Proposed for	
	Debarment	
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	OCT 2004
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits	3 JUL 2005
	(PRB) Other than Pensions	
52.216-7	Allowable Cost And Payment	DEC 2002
52.216-8	Fixed Fee	MAR 1997
52.219-7	Notice of Partial Small Business Set-Aside	JUN 2003
52.219-8	Utilization of Small Business Concerns	MAY 2004
52.219-9	Small Business Subcontracting Plan	SEP 2006
52.219-16	Liquidated Damages-Subcontracting Plan	JAN 1999
52.222-3	Convict Labor	JUN 2003
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans	SEP 2006
	of the Vietnam Era, and Other Eligible Veterans	
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans,	SEP 2006
	Veterans Of The Vietnam Era, and Other Eligible Veterans	
52.222-39	Notification of Employee Rights Concerning Payment of	DEC 2004
	Union Dues or Fees	
52.223-14	Toxic Chemical Release Reporting	AUG 2003
52.225-13	Restrictions on Certain Foreign Purchases	FEB 2006
52.226-1	Utilization Of Indian Organizations And Indian-Owned	JUN 2000
	Economic Enterprises	
52.227-1	Authorization and Consent	JUL 1995
52.227-2	Notice And Assistance Regarding Patent And Copyright	AUG 1996
	Infringement	
52.228-7	InsuranceLiability To Third Persons	MAR 1996
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-20	Limitation Of Cost	APR 1984
52.232-22	Limitation Of Funds	APR 1984
52.232-23 Alt I	Assignment of Claims (Jan 1986) - Alternate I	APR 1984
52.232-25	Prompt Payment	OCT 2003

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52.232-33		OCT 2003
	Registration	HH 0000
52.233-1	1	JUL 2002
52.233-3 Alt I		JUN 1985
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.243-2 Alt V	ChangesCost-Reimbursement (Aug 1987) - Alternate V	APR 1984
52.244-6	Subcontracts for Commercial Items	MAR 2007
52.245-5 Dev	Government Property (Cost-Reimbursement, Time-and-	MAY 2004
	Material, or Labor-Hour Contracts) Deviation	
52.245-9	Use And Charges	AUG 2005
52.249-6	Termination (Cost Reimbursement)	MAY 2004
52.249-14	Excusable Delays	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other	DEC 2004
	Defense-Contract-Related Felonies	
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration (52.204-7) Alternate A	NOV 2003
252.205-7000	Provision Of Information To Cooperative Agreement Holder	SDEC 1991
252.209-7004	Subcontracting With Firms That Are Owned or Controlled	DEC 2006
	By The Government of a Terrorist Country	
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	DEC 2006
252.219-7003	Small Business Subcontracting Plan (DOD Contracts)	APR 2007
252.225-7012	Preference For Certain Domestic Commodities	JAN 2007
252.226-7001	Utilization of Indian Organizations and Indian-Owned	SEP 2004
-	Economic Enterprises, and Native Hawaiian Small Business	
	Concerns	
252.227-7013	Rights in Technical DataNoncommercial Items	NOV 1995
252.227-7014	Rights in Noncommercial Computer Software and	JUN 1995
	Noncommercial Computer Software Documentation	
252.227-7015	Technical DataCommercial Items	NOV 1995
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7017	Identification and Assertion of Use, Release, or Disclosure	JUN 1995
	Restrictions	
252.227-7019	Validation of Asserted RestrictionsComputer Software	JUN 1995
252.227-7027	Deferred Ordering Of Technical Data Or Computer Softwar	e APR 1988
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7003	Electronic Submission of Payment Requests	MAR 2007
252.232-7010	Levies on Contract Payments	DEC 2006
252.235-7010	Acknowledgment of Support and Disclaimer	MAY 1995
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.242-7004	Material Management And Accounting System	NOV 2005
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.244-7000	Subcontracts for Commercial Items and Commercial	JAN 2007
	Components (DoD Contracts)	
252.247-7023	Transportation of Supplies by Sea	MAY 2002
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000

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CLAUSES INCORPORATED BY FULL TEXT

52.215-19 NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall--

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

52.222-2 PAYMENT FOR OVERTIME PREMIUMS (JUL 1990)

(a) The use of overtime is authorized under this contract if the overtime premium cost does not exceed \$0.00 or the overtime premium is paid for work --

(1) Necessary to cope with emergencies such as those resulting from accidents, natural disasters, breakdowns of production equipment, or occasional production bottlenecks of a sporadic nature;

(2) By indirect-labor employees such as those performing duties in connection with administration, protection, transportation, maintenance, standby plant protection, operation of utilities, or accounting;

(3) To perform tests, industrial processes, laboratory procedures, loading or unloading of transportation conveyances, and operations in flight or afloat that are continuous in nature and cannot reasonably be interrupted or completed otherwise; or

(4) That will result in lower overall costs to the Government.

(b) Any request for estimated overtime premiums that exceeds the amount specified above shall include all

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estimated overtime for contract completion and shall--

(1) Identify the work unit; e.g., department or section in which the requested overtime will be used, together with present workload, staffing, and other data of the affected unit sufficient to permit the Contracting Officer to evaluate the necessity for the overtime;

(2) Demonstrate the effect that denial of the request will have on the contract delivery or performance schedule;

(3) Identify the extent to which approval of overtime would affect the performance or payments in connection with other Government contracts, together with identification of each affected contract; and

(4) Provide reasons why the required work cannot be performed by using multishift operations or by employing additional personnel.

* Insert either "zero" or the dollar amount agreed to during negotiations. The inserted figure does not apply to the exceptions in paragraph (a)(1) through (a)(4) of the clause.

(End of clause)

52.227-12 PATENT RIGHTS--RETENTION BY THE CONTRACTOR (LONG FORM) (JAN 1997)

(a) Definitions. "Invention" means any invention or discovery which is or may be patentable or otherwise protectable under title 35 of the United States Code or any novel variety of plant that is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321, et seq.).

"Made" when used in relation to any invention means the conception or first actual reduction to practice of such invention.

"Nonprofit organization" means a domestic university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

"Practical application" means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

"Small business firm" means a small business concern as defined at section 2 of Pub. L. 85-536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in Government procurement and subcontracting at 13 CFR 121.3-8 and 13 CFR 121.3-12, respectively, will be used.

"Subject invention" means any invention of the Contractor conceived or first actually reduced to practice in the performance of work under this contract; provided, that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of contract performance.

(b) Allocation of principal rights. The Contractor may elect to retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the Contractor elects to retain title, the Federal Government shall have a nonexclusive,

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nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

(c) Invention disclosure, election of title, and filing of patent applications by Contractor. (1) The Contractor shall disclose each subject invention to the Contracting Officer within 2 months after the inventor discloses it in writing to Contractor personnel responsible for patent matters or within 6 months after the Contractor becomes aware that a subject invention has been made, whichever is earlier. The disclosure to the Contracting Officer shall be in the form of a written report and shall identify the contract under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose, operation, and physical, chemical, biological, or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale, or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the Contracting Officer, the Contractor shall promptly notify the Contracting Officer of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the Contractor.

(2) The Contractor shall elect in writing whether or not to retain title to any such invention by notifying the Federal agency at the time of disclosure or within 8 months of disclosure, as to those countries (including the United States) in which the Contractor will retain title; provided, that in any case where publication, on sale, or public use has initiated the 1-year statutory period wherein valid patent protection can still be obtained in the United States, the period of election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.

(3) The Contractor shall file its initial patent application on an elected invention within 1 year after election or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The Contractor shall file patent applications in additional countries (including the European Patent Office and under the Patent Cooperation Treaty) within either 10 months of the corresponding initial patent application or 6 months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) Requests for extension of the time for disclosure to the Contracting Officer, election, and filing may, at the discretion of the funding Federal agency, be granted, and will normally be granted unless the Contracting Officer has reason to believe that a particular extension would prejudice the Government's interest.

(d) Conditions when the Government may obtain title. The Contractor shall convey to the Federal agency, upon written request, title to any subject invention--

(1) If the Contractor elects not to retain title to a subject invention;

(2) If the Contractor fails to disclose or elect the subject invention within the times specified in paragraph (c) above (the agency may only request title within 60 days after learning of the Contractor's failure to report or elect within the specified times);

(3) In those countries in which the Contractor fails to file patent applications within the time specified in paragraph (c) above; provided, however, that if the Contractor has filed a patent application in a country after the times specified in paragraph (c) above, but prior to its receipt of the written request of the Federal agency, the Contractor shall continue to retain title in that country; or

(4) In any country in which the Contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

(e) Minimum rights to Contractor. (1) The Contractor shall retain a nonexclusive, royalty-free license throughout

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the world in each subject invention to which the Government obtains title except if the Contractor fails to disclose the subject invention within the times specified in paragraph (c) above. The Contractor's license extends to its domestic subsidiaries and affiliates, if any, within the corporate structure of which the Contractor is a part and includes the right to grant sublicenses of the same scope to the extent the Contractor was legally obligated to do so at the time the contract was awarded. The license is transferable only with the approval of the funding Federal agency except when transferred to the successor of that part of the Contractor's business to which the invention pertains.

(2) The Contractor's domestic license may be revoked or modified by the funding Federal agency to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions in the Federal Property Management Regulations and agency licensing regulations (if any). This license shall not be revoked in that field of use or the geographical areas in which the Contractor has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the funding Federal agency to the extent the Contractor, its licensees, or its domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, the funding Federal agency shall furnish the Contractor a written notice of its intention to revoke or modify the license, and the Contractor shall be allowed 30 days (or such other time as may be authorized by the funding Federal agency for good cause shown by the Contractor) after the notice to show cause why the license should not be revoked or modified. The Contractor has the right to appeal, in accordance with applicable agency licensing regulations and 37 CFR 404 concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of its license.

(f) Contractor action to protect the Government's interest. (1) The Contractor agrees to execute or to have executed and promptly deliver to the Federal agency all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the Contractor elects to retain title, and (ii) convey title to the Federal agency when requested under paragraph (d) above and subparagraph (n)(2) below, and to enable the Government to obtain patent protection throughout the world in that subject invention.

(2) The Contractor agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the Contractor each subject invention made under contract in order that the Contractor can comply with the disclosure provisions of paragraph (c) above, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by subparagraph (c)(1) above. The Contractor shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The Contractor shall notify the Federal agency of any decision not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than 30 days before the expiration of the response period required by the relevant patent office.

(4) The Contractor agrees to include, within the specification of any United States patent application and any patent issuing thereon covering a subject invention, the following statement: "This invention was made with Government support under (identify the contract) awarded by (identify the Federal agency). The Government has certain rights in this invention."

(5) The Contractor shall establish and maintain active and effective procedures to assure that subject inventions are promptly identified and disclosed to Contractor personnel responsible for patent matters within 6 months of conception and/or first actual reduction to practice, whichever occurs first in performance of work under this contract. These procedures shall include the maintenance of laboratory notebooks or equivalent records and other

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records as are reasonably necessary to document the conception and/or the first actual reduction to practice of subject inventions, and records that show that the procedures for identifying and disclosing the inventions are followed. Upon request, the Contractor shall furnish the Contracting Officer a description of such procedures for evaluation and for determination as to their effectiveness.

(6) The Contractor agrees, when licensing a subject invention, to arrange to avoid royalty charges on acquisitions involving Government funds, including funds derived through Military Assistance Program of the Government or otherwise derived through the Government, to refund any amounts received as royalty charges on the subject invention in acquisitions for, or on behalf of, the Government, and to provide for such refund in any instrument transferring rights in the invention to any party.

(7) The Contractor shall furnish the Contracting Officer the following:

(i) Interim reports every 12 months (or such longer period as may be specified by the Contracting Officer) from the date of the contract, listing subject inventions during that period and stating that all subject inventions have been disclosed or that there are no such inventions.

(ii) A final report, within 3 months after completion of the contracted work, listing all subject inventions or stating that there were no such inventions, and listing all subcontracts at any tier containing a patent rights clause or stating that there were no such subcontracts.

(8) The Contractor shall promptly notify the Contracting Officer in writing upon the award of any subcontract at any tier containing a patent rights clause by identifying the subcontractor, the applicable patent rights clause, the work to be performed under the subcontract, and the dates of award and estimated completion. Upon request of the Contracting Officer, the Contractor shall furnish a copy of such subcontract, and no more frequently than annually, a listing of the subcontracts that have been awarded.

(9) In the event of a refusal by a prospective subcontractor to accept one of the clauses in subparagraph (g)(1) or (2) below, the Contractor (i) shall promptly submit a written notice to the Contracting Officer setting forth the subcontractor's reasons for such refusal and other pertinent information that may expedite disposition of the matter and (ii) shall not proceed with such subcontracting without the written authorization of the Contracting Officer.

(10) The Contractor shall provide, upon request, the filing date, serial number and title, a copy of the patent application (including an English-language version if filed in a language other than English), and patent number and issue date for any subject invention for which the Contractor has retained title.

(11) Upon request, the Contractor shall furnish the Government an irrevocable power to inspect and make copies of the patent application file.

(g) Subcontracts. (1) The Contractor shall include the clause at 52.227-11 of the Federal Acquisition Regulation (FAR), suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental, or research work to be performed by a small business firm or nonprofit organization. The subcontractor shall retain all rights provided for the Contractor in this clause, and the Contractor shall not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(2) The Contractor shall include this clause (FAR 52.227-12) in all other subcontracts, regardless of tier, for experimental, developmental, or research work.

(3) In the case of subcontracts, at any tier, when the prime award with the Federal agency was a contract (but not a grant or cooperative agreement), the agency, subcontractor, and the Contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the Federal agency with respect to those matters covered by this clause.

Page 26 of 30

(h) Reporting utilization of subject inventions. The Contractor agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the Contractor or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and such other data and information as the agency may reasonably specify. The Contractor also agrees to provide additional reports as may be requested by the agency in connection with any march-in proceedings undertaken by the agency in accordance with paragraph (j) of this clause. To the extent data or information supplied under this paragraph is considered by the Contractor, its licensee or assignee to be privileged and confidential and is so marked, the agency agrees that, to the extent permitted by law, it shall not disclose such information to persons outside the Government. (i) Preference for United States industry. Notwithstanding any other provision of this clause, the Contractor agrees that neither it nor any assignce will grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the Federal agency upon a showing by the Contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

(j) March-in rights. The Contractor agrees that with respect to any subject invention in which it has acquired title, the Federal agency has the right in accordance with the procedures in FAR 27.304-1(g) to require the Contractor, an assignee, or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the Contractor, assignee, or exclusive licensee refuses such a request, the Federal agency has the right to grant such a license itself if the Federal agency determines that--

(1) Such action is necessary because the Contractor or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use;

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the Contractor, assignee, or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the Contractor, assignee, or licensees; or

(4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

(k) Special provisions for contracts with nonprofit organizations. [Reserved]

(1) Communications.

All written notifications required by this clause shall be submitted to the Administrative Contracting Officer (ACO).

All require reporting shall be accomplished using the i-Edison.gov reporting website (https://s-edison.info.nih.gov/iEdison/).

(m) Other inventions. Nothing contained in this clause shall be deemed to grant to the Government any rights with respect to any invention other than a subject invention.

(n) Examination of records relating to inventions. (1) The Contracting Officer or any authorized representative shall, until 3 years after final payment under this contract, have the right to examine any books (including

Page 27 of 30

laboratory notebooks), records, and documents of the Contractor relating to the conception or first reduction to practice of inventions in the same field of technology as the work under this contract to determine whether-

(i) Any such inventions are subject inventions;

(ii) The Contractor has established and maintains the procedures required by subparagraphs (f)(2) and (f)(3) of this clause; and

(iii) The Contractor and its inventors have complied with the procedures.

(2) If the Contracting Officer determines that an inventor has not disclosed a subject invention to the Contractor in accordance with the procedures required by subparagraph (f)(5) of this clause, the Contracting Officer may, within 60 days after the determination, request title in accordance with subparagraphs (d)(2) and (d)(3) of this clause. However, if the Contractor establishes that the failure to disclose did not result from the Contractor's fault or negligence, the Contracting Officer shall not request title.

(3) If the Contracting Officer learns of an unreported Contractor invention which the Contracting Officer believes may be a subject invention, the Contractor may be required to disclose the invention to the agency for a determination of ownership rights.

(4) Any examination of records under this paragraph shall be subject to appropriate conditions to protect the confidentiality of the information involved.

(o) Withholding of payment (this paragraph does not apply to subcontracts). (1) Any time before final payment under this contract, the Contracting Officer may, in the Government's interest, withhold payment until a reserve not exceeding \$50,000 or 5 percent of the amount of the contract, whichever is less, shall have been set aside if, in the Contracting Officer's opinion, the Contractor fails to--

(i) Establish, maintain, and follow effective procedures for identifying and disclosing subject inventions pursuant to subparagraph (f)(5) above;

(ii) Disclose any subject invention pursuant to subparagraph (c)(1) above;

(iii) Deliver acceptable interim reports pursuant to subdivision (f)(7)(i) above; or

(iv) Provide the information regarding subcontracts pursuant to subparagraph (f)(8) of this clause.

(2) Such reserve or balance shall be withheld until the Contracting Officer has determined that the Contractor has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by this clause.

(3) Final payment under this contract shall not be made before the Contractor delivers to the Contracting Officer all disclosures of subject inventions required by subparagraph (c)(1) above, an acceptable final report pursuant to subdivision (f)(7)(ii) above, and all past due confirmatory instruments.

(4) The Contracting Officer may decrease or increase the sums withheld up to the maximum authorized above. No amount shall be withheld under this paragraph while the amount specified by this paragraph is being withheld under other provisions of the contract. The withholding of any amount or the subsequent payment thereof shall not be construed as a waiver of any Government right.

(End of clause)

Page 28 of 30

52.233-4 APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM (OCT 2004)

United States law will apply to resolve any claim of breach of this contract.

(End of clause)

52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

www.arnet.gov/far or http://farsite.hill.af.mil

(End of clause)

52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the date of the clause.

(b) The use in this solicitation or contract of any Defense Federal Acquisition Regulation Supplement (DFARS) (48 CFR Chapter 2) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

(End of clause)

252.204-7006 BILLING INSTRUCTIONS (OCT 2005)

When submitting a request for payment, the Contractor shall--

(a) Identify the contract line item(s) on the payment request that reasonably reflect contract work performance; and

(b) Separately identify a payment amount for each contract line item included in the payment request.

(End of clause)

252.225-7006 QUARTERLY REPORTING OF ACTUAL CONTRACT PERFORMANCE OUTSIDE THE UNITED STATES (DEC 2006)

(a) Definition. United States, as used in this clause, means the 50 States, the District of Columbia, and outlying areas.

Page 29 of 30

(b) Reporting requirement. Except as provided in paragraph (c) of this clause, within 10 days after the end of each quarter of the Government's fiscal year, the Contractor shall report any subcontract, purchase, or intracompany transfer that--

- (1) Will be or has been performed outside the United States;
- (2) Exceeds the simplified acquisition threshold in Part 2 of the Federal Acquisition Regulation; and
- (3) Has not been identified in a report for a previous quarter.
- (c) Exception. Reporting under this clause is not required if--
- (1) A foreign place of performance is the principal place of performance of the contract; and

(2) The Contractor specified the foreign place of performance in its offer.

(d) Submission of reports. The Contractor shall submit the reports required by this clause to: Deputy Director of Defense Procurement and Acquisition Policy (Program Acquisition and International Contracting), OUSD(AT&L)DPAP(PAIC), Washington, DC 20301-3060.

(e) Report format. The Contractor--

(1) Shall submit reports using--

(i) DD Form 2139, Report of Contract Performance Outside the United States; or

(ii) A computer-generated report that contains all information required by DD Form 2139; and

(2) May obtain copies of DD Form 2139 from the Contracting Officer or via the Internet at http://www.dtic.mil/whs/directives/infomgt/forms/formsprogram.htm.

(f) Subcontracts. The Contractor--

(1) Shall include the substance of this clause in all first-tier subcontracts exceeding \$550,000, except those for commercial items, construction, ores, natural gases, utilities, petroleum products and crudes, timber (logs), or subsistence;

(2) Shall provide the number of this contract to its subcontractors required to submit reports under this clause; and

(3) Shall require the subcontractor, with respect to performance of its subcontract, to comply with the requirements directed to the Contractor in paragraphs (b) through (e) of this clause.

(End of clause)

Page 30 of 30

Section J - List of Documents, Exhibits and Other Attachments

DOCUMENT TYPE	DESCRIPTION
Attachment No. 1	Statement of Work (SOW)
Attachment No. 2	Precontract Cost Agreement
Attachment No. 3	List of Noncommercial Technical Data or Noncommercial Computer Software Furnished to the Government with Restrictions

,

HR0011-07-C-0058 Attachment No. 1 Page 1 of 4

STATEMENT OF WORK FOR

Synthetic Multifunctional Materials for Power Transmission and Communication^{(b)(4)}

Task 1. Demonstrate SWCPT Capabilities (HRL, Q3FY07 - Q3 FY08)

HRL Laboratories, LLC will investigate and demonstrate methods of implementing SWCPT for relevant applications.

1.1 media (SWM) Modeling and Design:

Using analytical calculations and numerical simulations, HRL will investigate SWM design and the dependence of critical performance parameters on material selection and geometric variation. HRL will evaluate these SWM designs

HRL

will quantify the dependence on and optimize for bandwidth, field confinement and power transfer properties, fabricate a parametric range of target designs, evaluate performance vs. analytical and numerical models, and produce predictive protocols for SWM design.

1.2 Surface Wave Media Fabrication

1.2.1 Continuous Planar SWMs

HRL will fabricate SWM panels selected from Task 1.1. The panels will have area >1.0 m^2 . ^{(b)(4)}

1.1.1 SWMs with complex curvature

HRL will fabricate SWM panels with complex curvature (b)(4)

HRL will analyze and demonstrate the SW propagation properties on the (b)(4) surface using simulations and laboratory measurements.

- 1.3 <u>Hub And Sensor Coupler Development:</u> HRL will demonstrate peripheral components that couple power and data signals to the SWM.
 - 1.3.1 Power Transmission Hub Coupler

(b)(4)

HRL will demonstrate a power transmission hub coupler, (b)(4)

(b)(4) capable of launching a high-power surface wave into the SWM with negligible insertion loss. The target performance will be

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- Power density > 1.0 W/m
- 1.3.2 <u>Rectenna (Node Power Coupler)</u>

HRL will design and fabricate (b)(4) rectennas for extracting power from the SWM. HRL will measure the power transmission efficiency (b)(4)

(h)(4) HRL will measure power transmission efficiency

1.3.3 Communication and Control:

HRL will design and fabricate hub and sensor couplers,

HRL will quantify

key parameters including sustained data rates, data bandwidth, bit error rates (BER), and susceptibility to electromagnetic interference (EMI). The goal is to

• Demonstrate point to multi-point data transfer > 5.0 Mbits/s

HRL will investigate methods of networking multiple "smart" sensors methods of addressing the sensors and controlling communications between the sensors.

- 1.4 Effects Of SWM Geometry On (SW):
 - 1.4.1 SW Scattering

HRL will perform numerical modeling and measurements to quantify the effects on SW scattering

(b)(4) We will develop designs to minimize these negative effects.

1.4.2 SW Field Strength Distribution

(0)(4)

(1:1(4)

HRL will determine the distribution of the surface wave field strength as a function of SMW geometry and sensor configuration. ^{(D)(4)}

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1.5 Data Transmission on Curvilinear Surface

HRL will demonstrate SW data transmission across ^{(b)(4)} to a spherical surface. HRL will measure the SWM performance with goals of

- Point to multi-point data transfer > 5.0 Mbits/s
- Spherical surface, diameter ~ 0.7m

Task 2 Structural Integration (Q3FY07 - Q3 FY08),

- 2.1 <u>Platform Integration Analysis</u>
 - 2.1.1 (b)(4) will identify those aircraft and/or space platforms where SWCPT will (b)(4)

and enable platform design with common

sensors.

- 2.1.2 (b)(4) will provide key specifications for potential space and aircraft health management prognostics. (b)(4) will develop monitoring systems that will provide broad area structural damage characteristics with sensitivities high enough to be usable by diagnostic and prognostic models. will develop modeling capabilities that diagnose and predict structural damage state by fusing multi-scale information including structural health monitoring data. will develop methods that quantify monitoring and modeling uncertainty/error with acceptable confidence.
- 2.1.3 ^{(b)(4)} will identify platform structural and materials compatibility issues.
- 2.1.4 (b)(4) will identify platforms to be used to demonstrate system integration.
- 2.2 SWCPT Testing
 - 2.2.1 (10)(4) will dictate realistic environmental conditions for creating definitive predictive prototype laboratory demonstrations. For example, for commercial aircraft, SWCPT must meet hot/wet performance up to 180°F; for military aircraft up to 200°F
 - will evaluate transmission along damaged composites
 - (b)(4) will design representative coupons to evaluate the effects of fuselage joints on
 - 2.2.2 will analyze test data to ensure SWCPT /platform compatibility.

Task 3 <u>SWCPT Applications (HRL, Q3FY07 – Q3 FY08)</u>

3.1 Distributed Sensor Networks

HRL will investigate SWCPT with distributed sensor networks.

3.1.1 Reconfigurable Nodes

HRL will investigate methods to integrate an array of coupler insertion points within the SWM, thus enabling quick and easy relocation of sensor elements

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3.1.2 Wireless Nodes

HRL will identify wireless communication platforms, (such as RFID, Zigbee or 802.11), for integrating into wireless nodes for transmitting data across the surface. HRL will evaluate those platforms for suitability to SWCPT applications. HRL will investigate the use of wireless nodes for transmitting sensor data, and will investigate various sensors integrated to those nodes including temperature, pressure, strain, ice detection and stability sensors.

3.2 Intrinsic Sensing

HRL will investigate environmental/material sensing using remote SW imaging methods that incorporate an array of SW transponders along the periphery of a SWM panel. HRL will analyze data from the transponders and correlate it to changes in the SW propagation signature due to material or environmental conditions, such as defects, damage and contamination. HRL will investigate the application of this method to detection of pressure profiles, ice formation, strain and damage.

Task 4High-PowerApplications (HRL, Q3FY07 - Q3 FY08)

HRL will investigate applications using high-power (b)(4) on

on an SWM. ^{(b)(4)}

HRL will

design and demonstrate an SWM and power coupler that can handle power near these levels.



Task 5 SWCPT Application Evaluation (HRL, Q4 FY08)

HRL will evaluate the results of all SWCPT configurations and application scenarios performed in previous tasks. HRL will refine designs and demonstrations in the three most promising areas for delivery to DARPA.

Deliverables:

- Quarterly reports
- FY07 Annual report
- Final Report
- SWCPT demonstration of data transmission
- SWCPT Demonstration of point to multi-point power and panel
- SWCPT demonstration of Task 5 applications

ADVANCE AGREEMENT TO AUTHORIZE INCURRENCE OF PRE-AWARD COSTS UNDER CONTRACT HR0011-07-C-0058

Re: (a) ARPA Order W718/00 MRL Labor storms, LLC

(b) Hughes Research Lab Proposal entitled "Synthetic Multifunctional Materials for Power Transmission and Communication submitted under Broad Agency Announcement (BAA) 07-21

The Contracts Management Office (CMO) of the Defense Advanced Research Projects Agency (DARPA) has received a valid and properly funded procurement request, ARPA Order W718/00, in support of this effort. Since the undersigned Contracting Officer has determined that the incurrence of costs before the actual issuance of a contract is necessary to ensure compliance with the delivery schedule, the Government and Contractor hereby agree as follows:

FIRST: In the event that a contract is awarded, pre-award costs, not to exceed \$90,000 shall be allowable under the contract, provided that the individual cost elements therein shall be:

- (a) otherwise allowable, reasonable, and allocable;
- (b) incurred no sooner than 9 April 2007 or after 9 May 2007, and;
- (c) incurred specifically and exclusively to accomplish the work described in the proposal referenced above.

SECOND: Contract terms and conditions shall be agreed to by the earlier of: (a) 9 May 2007; or

(b) the date on which the amount of funds obligated, committed or expended under this Advance Agreement is equal to no more than \$90,000.

THIRD AND FINALLY: It is the intention of the Government to award a contract to the contractor, subject to final agreement on the contract terms and conditions, specifications and price(s), which contract shall incorporate this Advance Agreement. It is understood and agreed by the parties herein that this Agreement concerns the treatment of pre-award costs in the event of a contract. This Agreement does not require the contractor to incur any such costs, and any costs so incurred are strictly at the risk of the contractor, until such time that a contract may be awarded.

FOR THE

Name, Title

FOR THE UNITED STATES OF AMERICA DEFENSE ADVANCED RESEARCH

Anthony E. Cicala Contracting Officer

Date

b)(6)

Date

HR0011-07-C-0058 Attachment No. 2 Page 2 of 3

AMENDMENT 1

to

ADVANCE AGREEMENT TO AUTHORIZE INCURRENCE OF PRE-AWARD COSTS UNDER CONTRACT HR0011-07-C-0058

Re: (a) ARPA Order W718/00

(b) HRL Laboratories LLC Proposal entitled "Synthetic Multifunctional Materials for Power Transmission and Communication submitted under Broad Agency Announcement (BAA) 07-21

(c) Advance Agreement to Authorize Incurrence of Pre-Award Costs Under Contract HR0011-07-C-0058, dated 9 April 2007

The purpose of Amendment 1 to reference (c) is to update the following:

1) The following language is hereby modified as follows:

DELETE:

FIRST: In the event that a contract is awarded, pre-award costs, not to exceed \$90,000 shall be allowable under the contract, provided that the individual cost elements therein shall be:

(a) otherwise allowable, reasonable, and allocable;

(b) incurred no sooner than 9 April 2007 or after 9 May 2007, and;

(c) incurred specifically and exclusively to accomplish the work described in the proposal referenced above.

INSERT:

FIRST: In the event that a contract is awarded, pre-award costs, not to exceed \$90,000 shall be allowable under the contract, provided that the individual cost elements therein shall be:

(a) otherwise allowable, reasonable, and allocable;

(b) incurred no sooner than 9 April 2007 or after 29 June 2007, and;

(c) incurred specifically and exclusively to accomplish the work described in the proposal referenced above.

2) The following language is hereby modified as follows:

DELETE:

SECOND: Contract terms and conditions shall be agreed to by the earlier of:

(a) 9 May 2007; or

(b) the date on which the amount of funds obligated, committed or expended under this Advance Agreement is equal to no more than \$90,000.

INSERT:

SECOND: Contract terms and conditions shall be agreed to by the earlier of:

(a) 30 June 2007; or

(b) the date on which the amount of funds obligated, committed or expended under this Advance Agreement is equal to no more than \$90,000

HR0011-07-C-0058 Attachment No. 2 Pagê 3 of 3

Contract Number: HR0011-07-C-0058 Amendment 1 to Advance Agreement to Authorize Incurrence of PreAward Costs Page 2 of 2

All other terms and conditions of reference (c) remain in effect unless stated otherwise herein.

FOR THE CONTRACTOR: HRL Laboratories, LLC. Matt W. Ganz, President & CEO

Date

FOR THE UNITED STATES OF AMERICA DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

Contracting Officer

9 MAY 07 Date

HR0011-07-C-0058 Attachment No. 3 Page 10f 1

LIST OF NONCOMMERCIAL TECHNICAL DATA OR NONCOMMERCIAL COMPUTER SOFTWARE FURNISHED TO THE GOVERNMENT WITH RESTRICTIONS

Performance of this contract involves the application of privately developed intellectual property as claimed by the contractor. As such, the contractor asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the noncommercial technical data or noncommercial computer software listed herein should be restricted.

The Government agrees with the contractor's stated position subject to the following: In the event that it is later determined that the asserted rights herein are inconsistent with other more favorable pre-existing rights previously afforded to the Government, then such more favorable pre-existing rights previously afforded to the Government shall apply to this contract.

Noncommercial Technical Data or Noncommercial Computer Software to be Furnished with Restrictions	Basis for Assertion	Asserted Rights Category	Name of Person Asserting Restrictions
(4)(4)		1	

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The above numbered solicitation is amended			APPLIES TO AMENDMENTS OF SO		ATIONS is extended,	is not ex	
(a) By completing Items 8 and 15, and return or (c) By separate letter or telegramwhich in RECEIVED AT THE PLACE DESIGNATE REJECTION OF YOUR OFFER. Ifby virtu	ncludes a reference D FOR THE 1 The of this arren	copies of the amendm ence to the solicitation RECEIP TOF OFFER dment you desire to ch	ectified in the solicitation or as amended by one ent; (b) By acknowledging receipt of this amen n and amendment numbers. FAILURE OF YOU S PRIOR TO THE HOUR AND DATE SPECH aange an offer already submitted, such change n adment, and is received prior to the opening h	dment o IRACH TEDM ny ber	on each copy of the o KNOWLEDGMEN IAY RESULT IN made by telegram or	T TO BE	k;
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E. IMPORTANT: Contractor X i	s not,	is required to a	sign this document and return	c	opies to the issu	ing office.	
14. DESCRIPTION OF AMENDMENT where feasible.) Modification Control Number: m	MODIFIC		ed by UCF section headings, including s	olicit	ation/contract su	ibject matte	r
See page 2 of 2.							
Except as provided herein, all terms and conditi	ions of the doc	ument referenced in It	em9A or 10A, as heretofore changed, remains u	nchan	ged and in full force	and effect.	
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15B. CONTRACTOR/OFFEROR		15C. DATE SIG	TEL: NED 16B. UNITED STATES OF A	MEP	EMAIL: thomas	si yu i@uarpa.m	16C. DATE SIGNED
		15C. DATE SIG	(Signature of Contractir				08-Nov-2007
(Signature of person authorized to							

FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

The purpose of this modification is to add an increment of funds in the amount of \$1,354,368.00 in order to fully fund the effort. The following is applicable:

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000102 is added as follows:

000102	AO No. W718/01	ψ1,554,508.00		φ1,554,500.00
000102	Funding for CLIN 0001 AO No. W718/01	\$1,354,368.00	\$0.00	\$1,354,368.00
ITEM NO	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000102:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
Destination	Government	Destination	Government

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by \$1,354,368.00 from \$891,869.00 to \$2,246,237.00.

SUBCLIN 000102:

Funding on SUBCLIN 000102 is initiated as follows:

ACRN: AA

Acctng Data: 9770400 1320 W718 P7620 2525 DPAC 7 5206 S12136 62715E

Increase: \$1,354,368.00

Total: \$1,354,368.00

(End of Summary of Changes)

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AMENDMENT OF SOLICIT	ATION/MODII	FICATION OF CONTRACT	СТ	1. CONTRAC		PAGE OF PAGES
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SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

The purpose of the modification is to revise the designated Contracting Officer's Representative (COR) address under this contract. Accordingly, HR0011-07-C-0058 is changed as follows:

1. SECTION F-3 - REPORT DISTRIBUTION

The following has been modified as highlighted in bold:

F-3 Report Distribution

(f) Air Force Research Laboratory Operationally Responsive Space (ORS) Office Attn: Jeffry S. Welsh, Ph.D.
3548 Aberdeen Ave SE Kirtland AFB, NM 87117-5776 Phone: 505-846-7344 Email: jeffry.welsh@kirtland.af.mil (one copy each report)

2. SECTION G - CONTRACT ADMINISTRATION DATA

The following has been modified as highlighted in bold:

G-4 (a) Contracting Officer's Representative (COR)

(a) Performance of work under this contract shall be subject to the technical direction of:

Air Force Research Laboratory Operationally Responsive Space (ORS) Office Attn: Jeffry S. Welsh, Ph.D. 3548 Aberdeen Ave SE Kirtland AFB, NM 87117-5776 Phone: 505-846-7344 Email: jeffry.welsh@kirtland.af.mil

Such technical direction includes those instructions to the Contractor necessary to accomplish the Statement of Work. The COR is not otherwise authorized to make any representations or commitments of any kind on behalf of the Contracting Officer or the Government. The COR does not have the authority to alter the Contractor's obligations or to change the specifications of the contract.

3. All provisions, terms and conditions set for in the Contract HR0011-07-C-0058 remain applicable and in full force and effect, except as specified herein.

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EXCEPTION TO SF 30 APPROVED BY OIRM 11-84			30-10	05-04				Prescribed	D FORM 30 (Rev. 10 by GSA FR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

The purpose of this administrative modification is to (1) extend the due date for reports and other deliverables for Item Numbers 005 and 006 and (2) make other administrative changes to the contract. Accordingly, HR0011-07-C-0058 is changed as follows:

1. SECTION F Deliveries or Performance

The following has been modified as highlighted in bold:

F-2	F-2 Reports and Other Deliverables							
Item No	Description	Due Date (on or before)						
001	Quarterly Reports	Quarterly						
002	FY 07 Annual Report	15 days after end of fiscal year						
003	Final Report	End Date of Contract						
004	SWCPT demonstration of	15 May 2008						
005	SWCPT demonstration of point to multi-point power and	17 February 2009						
006	SWCPT demonstration of Task 5 applications	17 February 2009						
F-3	Report Distribution (b) DARPA/ (DSO)							

Attn: Deidra Eberhardt, ADPM

3701 North Fairfax Drive Arlington, VA 22203-1714 Email: DSO ADPM@darpa.mil

(one copy each report) 2. All provisions, terms and conditions set for in the Contract HR0011-07-C-0058 remain applicable and in full force and effect, except as specified herein.