AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)

RATING

PAGE 1 OF PAGES 28

2. CONTRACT (Proc. Inst. Ident.) NO.
HR0011-08-C-0124

3. EFFECTIVE DATE
19 Sep 2008

4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
X670/03 & X670/07

5. ISSUED BY CODE HR0011
DARPA
CMO
ATTN: MICHAEL D. BLACKSTONE
3701 N. FAIRFAX DR.
ARLINGTON VA 22203-1714

6. ADMINISTERED BY (If other than Item 5) CODE S0545A
DCMA NORTHROP GRUMMAN SPACE TECHNOLOGY
ONE SPACE PARK
BLDG. E-1, RM. 1081
REDONDO BEACH CA 90278-1078

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)
NORTHROP GRUMMAN SPACE & MISSION SYSTEMS
1 SPACE PARK BLVD
REDONDO BEACH CA 90278-1001

CODE 11982 FACILITY CODE

8. DELIVERY
[ ] FOB ORIGIN [X] OTHER (See below)

9. DISCOUNT FOR PROMPT PAYMENT
Net 30 Days

10. SUBMIT INVOICES 1
(4 copies unless otherwise specified)
TO THE ADDRESS SHOWN IN:

ITEM
Section G

11. SHIP TO/MARK FOR CODE N00039
SPAWAR SYSTEMS CENTER SAN DIEGO
DR. FRANK HANSON
SPAWARSYSCEN 55430
53490 DOW STREET
SAN DIEGO CA 92152-5743

12. PAYMENT WILL BE MADE BY CODE HQ0339
DFAS COLUMBUS CENTER
WEST ENTITLEMENT OPERATIONS
P.O. BOX 182381
COLUMBUS OH 43218-2381

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )

14. ACCOUNTING AND APPROPRIATION DATA
See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT $4,514,076.00

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE	
X	A	SOLICITATION/ CONTRACT FORM	1
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 - 3
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	4 - 7
X	D	PACKAGING AND MARKING	8
X	E	INSPECTION AND ACCEPTANCE	9
X	F	DELIVERIES OR PERFORMANCE	10 - 12
X	G	CONTRACT ADMINISTRATION DATA	13 - 15
X	H	SPECIAL CONTRACT REQUIREMENTS	16 - 20
		PART II - CONTRACT CLAUSES	
X	I	CONTRACT CLAUSES	21 - 27
		PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS	
X	J	LIST OF ATTACHMENTS	28
		PART IV - REPRESENTATIONS AND INSTRUCTIONS	
	K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
	L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. [X] CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return1 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein.
(Attachments are listed herein.)

18. [ ] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print)

20A. NAME OF CONTRACTING OFFICER
MICHAEL D. BLACKSTONE / PCO
TEL: (571) 218-4804 EMAIL: michael.blackstone@darpa.mil

19B. NAME OF CONTRACTOR
BY _____
(Signature of person authorized to sign)

19C. DATE SIGNED

20B. UNITED STATES OF AMERICA
BY (b)(6)
(Signature of Contracting Officer)

20C. DATE SIGNED
19-Sep-2008

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0001	RIFL Phase I (Base) AO No. X670/03 & X670/07 The contractor shall conduct the Phase 1 research entitled "Multi-KiloWatt Single Frequency Fiber Laser Amplifers" in accordance with the Attachment 1 Statement of Work, dated 8 September 2008 and in Section C herein. Data deliverables/reports shall be provided in accordance with Sections C and F herein.	(b)(4)	(b)(4)	$4,514,076.00

ITEM NO		AMOUNT
000101	Funding for CLIN 0001 only	
	AO No. X670/03 & X670/07	
	ACRN AA	$923,114.00

ITEM NO	SUPPLIES/SERVICES	ESTIMATED COST	FIXED FEE	TOTAL EST. COST PLUS FIXED FEE
0002	RIFL Phase II (Option) AO No. X670/03 & X670/07 The contractor shall conduct the Phase II research entitled "Multi-KiloWatt Single Frequency Fiber Laser Amplifers" in accordance with the Attachment 1 Statement of Work, dated 8 September 2008 and in Section C herein. Data deliverables/reports shall be provided in accordance with Sections C and F herein.	(b)(4) redacted	(b)(4) redacted	$4,629,905.00

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 and, to the extent the Option is exercised , CLIN 0002, in accordance with the Statement of Work, Attachment 1 hereto dated 8 September 2008.

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) R&D STATUS REPORT (MONTHLY)
This brief narrative, not to exceed five pages in length, shall contain the following:
- (i) Description of progress during the reporting period, supported by reasons for any change in approach reported previously.
- (ii) The contractor shall also discuss any technical and/or financial problems discovered during the reporting period in this narrative.

(2) DETAILED TECHNICAL/FINANCIAL (QUARTERLY)
This detailed narrative does not have page restrictions and 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)

R&D STATUS REPORT
PROGRAM FINANCIAL 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:						

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

(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

(3) ALL REPORTS

(a) 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."

(b) 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.

(c) 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

(i) 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
> Microsystems Technology Office (MTO)
> Program: Revolution in Fiber Lasers (RIFL)
> Issued by DARPA/CMO under Contract No: HR0011-08-C-0124

(ii) 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."

(d) 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.

(e) Distribution Statement B applies.

"Distribution authorized to U.S. Government agencies only due to the inclusion of proprietary information and to prevent Premature Dissemination of potentially critical technological Information. Other requests for this document shall be referred to DARPA Technical Information Office via email at tio@darpa.mil."

Note to contractor: In accordance with the applicable Data Rights clauses(s), all proprietary information within the data deliverables shall be clearly identified/marked as such for each such occurrence (use of footnotes, or similar forms of reference, for purposes of such identification is encouraged).

(4) ADDITIONAL MISCELLANEOUS DATA DELIVERABLES

The Contractor shall also deliver those items listed in the Contract Attachment (1) - Statement of Work under the paragraph entitled "Deliverables", as applicable. The Contractor shall adhere to the schedule, as applicable, in the Statement of Work. Briefing materials (hard and softcopy) for all briefings given to the Government shall be provided in the Contractor's format.

(end of clause)

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)

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at destination by Contracting Officer's Representative identified in Section G herein.

Use of the DD 250 is required only for submission of the Program Final Report.
(end of clause).

CLAUSES INCORPORATED BY REFERENCE

52.246-8	Inspection Of Research And Development Cost Reimbursement	MAY 2001
252.246-7000	Material Inspection And Receiving Report	MAR 2008

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	15 mths. ADC		SPAWAR SYSTEMS CENTER SAN DIEGO DR. FRANK HANSON SPAWARSYSCEN 55430 53490 DOW STREET SAN DIEGO CA 92152-5743 (619) 553-2094 FOB: Destination	N00039
000101	15 mths. ADC		(SAME AS PREVIOUS LOCATION) FOB: Destination	N00039
0002	18 mths. ADC		(SAME AS PREVIOUS LOCATION) FOB: Destination	N00039

CLAUSES INCORPORATED BY REFERENCE

52.242-15 Alt I	Stop-Work Order (Aug 1989) - Alternate I	APR 1984
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 22 September 2008 and continues through 21 December 2009.

(b) The period of performance for Option 1, as set forth in CLIN 0002, shall be from the effective date of the option exercise to and including 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)
0001,0002	R&D Status Reports	Monthly IAW Section C-2
0001,0002	Interim R&D Technical Reports	Quarterly IAW Section C-2
0001,0002	RIFL Final Report	15 months after date of contract award (21 December 2009) If option is exercised, 33 months after

		date of contract award (20 June 2011)
0001,0002	Additional Misc. Deliverables	As required IAW Section C-2

(end of clause)

F-3 Report Distribution

(a) DARPA/MTO (RIFL Program Manager)
Attn: Joseph Mangano
3701 North Fairfax Drive
Arlington, VA 22203-1714
Email: (Joseph.Mangano@darpa.mil)
(one copy each report/data deliverable)

(b) DARPA/(RIFL)
Attn: ADPM (R. Glaze)
3701 North Fairfax Drive
Arlington, VA 22203-1714
(one copy each monthly status report and final 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

(1) 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: Michael Blackstone
3701 North Fairfax Drive
Email: Michael.Blackstone@darpa.mil
Arlington, VA 22203-1714
(one copy each monthly status report and final report)

(f) COR
Attn: Dr. Frank Hanson
SPAWARSYSCEN 55430
53490 Dow Street
San Diego, CA 92152-5743
Email: hansonfe@spawar.navy.mil
(one copy each report/data deliverable)

(end of clause)

Note 1: (a) through (f) – submission of unclassified materials only. Submission of classified material shall be coordinated through DARPA SID and/or the DARPA Program Manager in accordance with the attached DD 254, as applicable.

Note 2: (a) through (f) – Interim Report submissions may be made electronically via e-mail. Final Report submissions shall be made in hardcopy and CD soft copy.

Note 3: For the Final Technical Report (s), the Contractor must also comply with the distribution requirements of DFARS 252.235-7011, as applicable.

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)

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 9780400 1320 X670 P8G10 2525 DPAC 8 5251 S12136 62702E
AMOUNT: $923,114.00
CIN 00000000000000000000000000000: $923,114.00

CLAUSES INCORPORATED BY FULL TEXT

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)

G-1 Procuring Office Representative

(a) The Procuring Office Representative is Michael Blackstone, DARPA/CMO, 3701 North Fairfax Drive, Arlington, VA 22203-1714, telephone: 571-218-4804, e-mail: Michael.Blackstone@darpa.mil

(b) 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 the statement of work, a modification must be issued in writing and signed by the Contracting Officer.

(end of clause)

G-2 Electronic Submission of Payment Requests

(a) Invoices for goods received or services rendered under this contract shall be submitted electronically through Wide Area Work Flow – Receipt and Acceptance (WAWF):

(1) Vendors that have never used WAWF shall follow the directions in the WAWF Vendor Getting Started Guide available at the following website: http://www.dfas.mil/contractorpay/electroniccommerce/wideareaworkflow.html. This website also contains links for Vendor training and practice. Additional support can be obtained by calling WAWF Customer Service at 866-618-5988.

(2) Back up documentation (such as timesheets, monthly status reports, etc.) can be included and attached to the invoice in WAWF. Attachments should be in PDF format, but Attachments created in any Microsoft Office product may be attached. Total limit for the size of files per invoice is 5 megabytes.

(b) The following information, regarding invoice routing DoDAAC's, must be entered for completion of the invoice in WAWF:

WAWF Invoice Type:	Cost Voucher
Issuing Office DoDAAC	HR0011
Admin Offfice DoDAAC	S0545A
Service Approver DoDAAC	S0545A
DCAA Office DoDAAC	HAA070
Paying Office DoDAAC	HQ0339

(c) Cost Vouchers from Contractors approved by DCAA for direct billing will be directly routed to DFAS. Cost Vouchers from Contractors not approved for direct billing will be routed to DCAA for approval before the Cost Voucher is routed to DFAS. All Final Cost Voucher submissions will be routed to the Service Approver for approval. The DCAA office for this award is:

[redacted]

One Hornet Way, Bldg 902- MS:DCAA W5
El Segundo, CA 90245-2804

DoDAAC: HAA070
Phone No: (310) 332-2727
Fax No: (310) 640-2357
E-mail: *dcaa-fao4721@dcaa.mil*

(d) For each invoice/cost voucher submitted for payment, the contractor shall also e-mail the WAWF automated invoice notice directly to the following points of contact:

Name	**E-mail**	**Phone**	**Role**
Frank Hanson	hansonfe@spawar.navy.mil	619-553-2094	COR

G-3 Delegation of Authority for Contract Administration

(a) DCMA Northrop Grumman Space Technology (S05454), 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 Frank Hanson, SPAWARSYSCEN 55430, 53490 Dow Street San Diego, CA 92152-5743, telephone (619)553-2094, e-mail: hansonfe@spawar.navy.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.

(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.

(5) See Attachment (3)
(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, as indicated in the table below, which is presently made available for performance under this contract. It is estimated that the funds presently available are sufficient to permit the Contractor's performance through the performance end dates indicated in the table below. 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 the funds listed in the table below shall arise unless and until additional funds are made available by the Contracting Officer through a modification to this contract.

Phase	**CLIN**	**Funding Provided to Date**	**Funding Period of Performance End Date**
1	0001	$923,114	19 April 2009
2	0002	TBD	TBD

(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)

Section H - Special Contract Requirements

CLAUSES INCORPORATED BY FULL TEXT

H-1 Type of Contract

(a) This is a Cost-Plus-Fixed-Fee completion contract.
(end of clause)

H-2 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.

(c) See also Section I, Clause 252.235-7010, "Acknowledgement of Support and Disclaimer."
(end of clause)

H-3 Key Personnel

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

NGST

(b)(4)

(b)(4)

(b)(4)

(b)(4)

(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-4 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-5 Contractor Representations and Certifications

(a) The Contractor's Representations and Certifications dated 11 September 2007 (ORCA) and 8 July 2008 are incorporated herein by reference.
(end of clause)

H-6 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-7 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.

(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 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-8 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-9 Consent to Subcontract

(a) Pursuant to the clause of the General Provisions entitled "Subcontracts (JUN 2007)," FAR 52.244-2(j), the Contracting Officer hereby consents to the placement of subcontract(s) with the following firm(s)/consultant(s) at the ceiling amounts specified:

First Tier Subcontract:

NAME	TOTAL AMOUNT
(b)(4)	(b)(4)

- ***Second Tier Subcontract:***

NAME	TOTAL AMOUNT
(b)(4)	(b)(4)

(b) Approval must be obtained from the Administrative Contracting Officer (ACO) to increase/decrease the use of the above listed subcontractors by greater than 5% from the level established in subparagraph (a).
(end of clause)

H-10 Small Business Subcontracting Plan and Goals

(a) The Contractor's Small Business Subcontracting Plan, dated 9 January 2008, is incorporated herein and made a part of this contract by reference.
(end of clause)

H-11 Government Furnished Property/Facilities and Services

(a) In accordance with the Section I contract clause entitled "Government Property", the following property, facilities and/or services shall be provided for use in the performance of this contract.

Need Date	QTY	PROPERTY NOMENCLATURE	DELIVERY TO
NONE IDENTIFIED AT TIME OF AWARD			

(end of clause)

H-12 Invention Disclosure Reports (DFARS 252.227-7038)

All written communications required by this clause shall be submitted to the Administrative Contracting Officer (ACO). All required reporting (invention disclosures, patent disclosures, etc.) shall be accomplished using the i-Edison.gov reporting website (http://s-edison.info.nih.gov/iEdison/).

H-13 Contractor Acquired Property (IT)

(a) Performance of this contract will require use of the information technology (IT) resources listed below, acquisition of which (or equivalent) is hereby authorized:

ITEM	TOTAL AMOUNT
NONE IDENTIFIED AT TIME OF AWARD	

(b) The costs incurred by the Contractor in acquiring the IT listed in paragraph (1.) above shall be considered allowable costs under the contract provided that the total net amount of the IT does not exceed $_____. The Contractor shall have no obligation to acquire IT and the Government shall have no obligation to reimburse any amount for IT in excess of the amount set forth above unless the contract is modified to increase this amount.

(c) The IT resources listed above shall be considered Government Property and shall be subject to the provisions of FAR 52.245-1, incorporated in Section I.

(d) The Contractor shall not use Contractor acquired property listed above for work other than that performed pursuant to this contract unless so authorized in writing by the Contracting Officer.

(e) This authorization is subject to the Contractor's compliance with the approvals and screening requirements set forth in DFARS Subpart 239.73 and DoD 7950.1-M, "Defense Automation Resources Management Manual."

(1) Use of the DD Form 1851 for determining availability of excess information technology (IT) is only required for IT with a unit acquisition cost of $ _____ and above.
(2) On-line screening for excess IT, regardless of cost, via remote terminal dial-up, is available to contractors through their Administrative Contracting Officers.

(end of clause)

H-14 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. 2.

(end of clause)

H-15 Consultants

(a) The contractor is authorized to use the following consultants to the extent indicated:

Name	No. of Hours	Rate	Total Amount

NO CONSULTANTS AUTHORIZED AS OF THE EFFECTIVE DATE OF THIS CONTRACT.

(b) Approval must be obtained from the Administrative Contracting Officer to increase the use of consultants from the level estimated in subparagraph (1.).

(end of clause)

H-16 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)

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
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	SEP 2007
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	SEP 2006
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997
52.215-14 Alt I	Integrity of Unit Prices (Oct 1997) - Alternate I	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	OCT 2004
52.215-16	Facilities Capital Cost of Money	JUN 2003
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005
52.215-21	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data--Modifications	OCT 1997
52.216-7	Allowable Cost And Payment	DEC 2002
52.216-8	Fixed Fee	MAR 1997
52.219-8	Utilization of Small Business Concerns	MAY 2004
52.219-9	Small Business Subcontracting Plan	APR 2008
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 of the Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-39	Notification of Employee Rights Concerning Payment of Union Dues or Fees	DEC 2004
52.222-50	Combating Trafficking in Persons	AUG 2007
52.223-14	Toxic Chemical Release Reporting	AUG 2003
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1 Alt I	Authorization And Consent (Dec 2007) - Alternate I	APR 1984
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007

52.228-7	Insurance--Liability To Third Persons	MAR 1996
52.230-2	Cost Accounting Standards	APR 1998
52.230-6	Administration of Cost Accounting Standards	MAR 2008
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
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1	Disputes	JUL 2002
52.233-3 Alt I	Protest After Award (Aug 1996) - Alternate 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	Changes--Cost-Reimbursement (Aug 1987) - Alternate V	APR 1984
52.244-2	Subcontracts	JUN 2007
52.244-5	Competition In Subcontracting	DEC 1996
52.244-6	Subcontracts for Commercial Items	MAR 2007
52.245-1 (Dev)	Government Property (June 2007)	JUN 2007
52.245-9	Use And Charges	JUN 2007
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 Defense-Contract-Related Felonies	DEC 2004
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration (52.204-7) Alternate A	SEP 2007
252.204-7009	Requirements Regarding Potential Access to Export-Controlled Items	JUL 2008
252.205-7000	Provision Of Information To Cooperative Agreement Holders	DEC 1991
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	DEC 2006
252.211-7007	Item Unique Identification of Government Property	SEP 2007
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	DEC 2006
252.215-7004	Excessive Pass-Through Charges	MAY 2008
252.219-7003	Small Business Subcontracting Plan (DOD Contracts)	APR 2007
252.225-7006	Quarterly Reporting of Actual Contract Performance Outside the United States	MAY 2007
252.225-7012	Preference For Certain Domestic Commodities	MAR 2008
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7013	Rights in Technical Data--Noncommercial Items	NOV 1995
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation	JUN 1995
252.227-7015	Technical Data--Commercial Items	NOV 1995
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7019	Validation of Asserted Restrictions--Computer Software	JUN 1995
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988

252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.227-7038	Patent Rights--Ownership by the Contractor (Large Business)	DEC 2007
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	MAR 2008
252.232-7010	Levies on Contract Payments	DEC 2006
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 Components (DoD Contracts)	JAN 2007
252.247-7023	Transportation of Supplies by Sea	MAY 2002
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000

CLAUSES INCORPORATED BY FULL TEXT

52.203-14 DISPLAY OF HOTLINE POSTER(S) (DEC 2007)

(a) Definition.

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

(b) Display of fraud hotline poster(s). Except as provided in paragraph (c)--

(1) During contract performance in the United States, the Contractor shall prominently display in common work areas within business segments performing work under this contract and at contract work sites--

(i) Any agency fraud hotline poster or Department of Homeland Security (DHS) fraud hotline poster identified in paragraph (b)(3) of this clause; and

(ii) Any DHS fraud hotline poster subsequently identified by the Contracting Officer.

(2) Additionally, if the Contractor maintains a company website as a method of providing information to employees, the Contractor shall display an electronic version of the poster(s) at the website.

(3) Any required posters may be obtained as follows:

Poster(s) Obtain from

(3) Any required posters may be obtained as follows:

Poster(s) Obtain from

DoD Inspector General, ATTN: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884

(c) If the Contractor has implemented a business ethics and conduct awareness program, including a reporting mechanism, such as a <http://farsite.hill.af.mil/otcgi/llscgi60.exe?ACTION=Highlight&QUERY=%68%6F%74%6C%69%6E%65%20%70%6F%73%74%65%72&OP=and&DB=2&SORTBY=%54%49%54%4C%45&SUBSET=SUBSET&FROM=1&SIZE=50&ITEM=3#test7#test7> hotline poster <http://farsite.hill.af.mil/otcgi/llscgi60.exe?ACTION=Highlight&QUERY=%68%6F%74%6C%69%6E%65%20%

70%6F%73%74%65%72&OP=and&DB=2&SORTBY=%54%49%54%4C%45&SUBSET=SUBSET&FROM=1&SIZE=50&ITEM=3#test9#test9> , then the Contractor need not display any agency fraud hotline posters as required in paragraph (b) of this clause, other than any required DHS posters.

(d) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (d), in all subcontracts that exceed $5,000,000, except when the subcontract—

(1) Is for the acquisition of a commercial item; or

(2) Is performed entirely outside the United States.

(End of clause)

52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)

(a) The Government may extend the term of this contract by written notice to the Contractor within 15 months (insert the period of time within which the Contracting Officer may exercise the option); provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 14 days (60 days unless a different number of days is inserted) before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 33 months.
(End of clause)

52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (JUNE 2007)

(a) Definitions. As used in this clause--

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause.

(b) If the Contractor represented that it was a small business concern prior to award of this contract, the Contractor shall rerepresent its size status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon the occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts--

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the exercise date specified in the contract for any option thereafter.

(c) The Contractor shall rerepresent its size status in accordance with the size standard in effect at the time of this rerepresentation that corresponds to the North American Industry Classification System (NAICS) code assigned to this contract. The small business size standard corresponding to this NAICS code can be found at http://www.sba.gov/services/contractingopportunities/sizestandardstopics/.

(d) The small business size standard for a Contractor providing a product which it does not manufacture itself, for a contract other than a construction or service contract, is 500 employees.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the rerepresentation required by paragraph (b) of this clause by validating or updating all its representations in the Online Representations and Certifications Application and its data in the Central Contractor Registration, as necessary, to ensure they reflect current status. The Contractor shall notify the contracting office by e-mail, or otherwise in writing, that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in ORCA, or does not have a representation in ORCA for the NAICS code applicable to this contract, the Contractor is required to complete the following rerepresentation and submit it to the contracting office, along with the contract number and the date on which the rerepresentation was completed:

The Contractor represents that it ( ) is, ( ) is not a small business concern under NAICS Code - assigned to contract number .

(Contractor to sign and date and insert authorized signer's name and title).

(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 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 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)

52.233-4 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)

52.247-1 COMMERCIAL BILL OF LADING NOTATIONS (FEB 2006)

When the Contracting Officer authorizes supplies to be shipped on a commercial bill of lading and the Contractor will be reimbursed these transportation costs as direct allowable costs, the Contractor shall ensure before shipment is made that the commercial shipping documents are annotated with either of the following notations, as appropriate:

(a) If the Government is shown as the consignor or the consignee, the annotation shall be:

"Transportation is for the Defense Advanced Research Projects Agency (DARPA) and the actual total transportation charges paid to the carrier(s) by the consignor or consignee are assignable to, and shall be reimbursed by, the Government."

(b) If the Government is not shown as the consignor or the consignee, the annotation shall be:

"Transportation is for the Defense Advanced Research Projects Agency (DARPA) and the actual total transportation charges paid to the carrier(s) by the consignor or consignee shall be reimbursed by the Government, pursuant to cost-reimbursement contract no.HR011-08-C-0124. This may be confirmed by contacting the Administrative Contracting Officer at DCMA Northrop Grumman Space Technology."

(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):

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 (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)

252.235-7010 Acknowledgment of Support and Disclaimer. (MAY 1995)

(a) The Contractor shall include an acknowledgment of the Government's support in the publication of any material based on or developed under this contract, stated in the following terms: This material is based upon work supported by the Defense Advanced Research Agency (DARPA) under Contract No. HR0011-08-C-0124.

(b) All material, except scientific articles or papers published in scientific journals, must, in addition to any notices or disclaimers by the Contractor, also contain the following disclaimer: Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the Defense Advanced Research Projects Agency (DARPA), U.S. Department of Defense (DoD) or U.S. Government.

Section J - List of Documents, Exhibits and Other Attachments

LIST OF ATTACHMENTS

DOCUMENT TYPE	PAGES	DATE
Attachment 1 – Statement of Work	5	8 September 2008
Attachment 2 – Intellectual Property	1	25 August 2008
Attachment 3 – COR Letter	3	3 September 2008

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
3701 NORTH FAIRFAX DRIVE
ARLINGTON, VA 22203-1714

September 19, 2008

MEMORANDUM FOR ADMINISTRATIVE CONTRACTING OFFICER, DCMA NORTHROP GRUMMAN SPACE TECHNOLOGY (ATTN: COGNIZANT ADMINISTRATIVE CONTRACTING OFFICER)

SUBJECT: Specific Delegation of Authority for Administrative Functions for Contract No. HR0011-08-C-0124 with Northrop Grumman Space Technology (NGST).

The subject contract, a copy of which has been transmitted to DCMA via EDA, designates your activity as the Administrative Office for performance of the contract functions listed in the attached checklist of administration functions. Subject to your concurrence, you are requested to perform the functions identified. It is requested that you confirm acceptance of this delegation in writing to the undersigned. A copy of the Contracting Officer's Representative (COR) assignment letter is available upon request to the undersigned.

Please note that this is a Cost-Plus-Fixed-Fee completion contract of which includes use of WAWF for invoicing and i-edison for submission of invention disclosures and patent reports.

If you have any questions, please contact me at (571) 218-4804 or michael.blackstone@darpa.mil.

(b)(6)

Michael D. Blackstone
Contracting Officer
Contracts Management Office

Attachments: (1) Checklist of Administration Functions

ATTACHMENT 1
CONTRACT ADMINISTRATION FUNCTIONS

Contract Number: HR0011-08-C-0124

Michael D. Blackstone
Contracting Officer

19 SEPTEMBER 2008
Date

The items listed in FAR 42.302(a), DFARS 242.302, and Class Deviation 99-O0010 are the contract administration functions to be performed by the cognizant contract administrative office (CAO), to the extent they apply on this contract, as prescribed in 42.202.

The CAO shall perform the functions in FAR 42.302(b) only when and to the extent specifically authorized by the contracting office as identified below:

- [ ] Negotiate or negotiate and execute supplemental agreements incorporating contractor proposals resulting from change orders issued under the Changes clause. Before completing negotiations, coordinate any delivery schedule change with the contracting office.
- [ ] Negotiate prices and execute priced exhibits for unpriced orders issued by the contracting officer under basic ordering agreements.
- [X] Negotiate or negotiate and execute supplemental agreements changing contract delivery schedules.
- [X] Negotiate or negotiate and execute supplemental agreements providing for the deobligation of unexpended dollar balances considered excess/remaining to known contract requirements.
- [ ] Issue amended shipping instructions and, when necessary, negotiate and execute supplemental agreements incorporating contractor proposals resulting from these instructions.
- [X] Negotiate changes to interim billing prices.
- [ ] Negotiate and definitize adjustments to contract prices resulting from exercise of an economic price adjustment clause (see Subpart 16.2).
- [ ] Issue change orders and negotiate and execute resulting supplemental agreements under contracts for ship construction, conversion, and repair.

ATTACHMENT 1
CONTRACT ADMINISTRATION FUNCTIONS

[ ] Execute supplemental agreements on firm-fixed-price supply contracts to reduce required contract line item quantities and deobligate excess funds when notified by the contractor of an inconsequential delivery shortage, and it is determined that such action is in the best interests of the Government, notwithstanding the default provisions of the contract. Such action will be taken only upon the written request of the contractor and, in no event, shall the total downward contract price adjustment resulting from an inconsequential delivery shortage exceed $250.00 or 5 percent of the contract price, whichever is less.

[ ] Execute supplemental agreements to permit a change in place of inspection at origin specified in firm-fixed-price supply contracts awarded to nonmanufacturers, as deemed necessary to protect the Government's interests.

[X] Make acceptance of contract deliverables/invoices in the Wide Area Workflow (WAWF) system, as necessary, on behalf of the Contracting Officer's Representative should that organization not be capabable of doing so. Prior to making any such acceptance, the ACO will receive a written acceptance (e-mail is accetable) from the COR. This assistance will not be necessary for cost-type contracts to which WAWF vouchers will be the invoice format.

[X] Prepare evaluations of contractor performance in accordance with Subpart 42.15.

[X] Ensuring timely submission of required reports (to include invention/patent disclosures via i-Edison)

Any additional contract administration functions not identified above, or not otherwise delegated, remain the responsibility of the contracting office.

STATEMENT OF WORK
FOR
REVOLOUTION IN FIBER LASERS (RIFL)
BY
NORTHROP GRUMMAN SPACE AND MISSION SYSTEMS

8 September 2008

A.1 Objective

The objective of the RIFL program is to scale single-frequency fiber laser amplifiers to >1 kW in Phase 1, and to >3 kW in Phase 2. The output of the fiber laser amplifier must be single-mode, polarization-maintaining, and narrow-line. All metrics listed for each phase of the RIFL program (Figure A1-1) are to be met on the same fiber laser amplifier. The milestones for each task are listed in Figures A3-1 and A4-1 below.

Figure A1-1. Technical Performance Goals (Metrics)

Parameter	Phase 1 RIFL Program Goal	Phase 2 RIFL Program Goal
Power (W)	> 1 kW	> 3 kW
Efficiency	>15%	30%
Beam Quality (M2)	≤ 1.4 DL	≤ 1.4 DL
Saturated Stage Gain	≥ 10	≥ 10
Integrated Phase Noise	< λ/10 RMS beyond 400 kHz	< λ/10 RMS beyond 1 kHz
Polarization Extinction	> 20:1	> 30:1
Architecture	--	Monolithic, all-fiber
Runtime	≥ 200 sec	≥ 200 sec
Lifetime	100 hrs	300 hrs

Northrop Grumman (NGST or "contractor") intends to achieve the RIFL objectives and goals by implementing novel technologies including a strain-induced SBS suppression technique, additional SBS suppression by advanced fiber design, high brightness diode pump modules, and high-power components. Meeting the program objectives and goals will be made possible by a sequence of milestones that incrementally reduce the technical risk (Figures A3-1 and A4-1). A summary of the risk reduction tasks supporting the Phase 1 1-kW demonstration and the Phase 2 3-kW demonstration are provided below:

Phase 1 results leading to the 1-kW SSFLA demonstration include:

- 200-W compression spool
- 1-kW broadband fiber amplifier
- SBS-mitigating fiber with >6X suppression of SBS over a baseline fiber
- 1-kW compression spool with >16 X SBS suppression

Phase 1 results that reduce Phase 2 risks include development and demonstration of the following:

- Prototype high-brightness diode pump module with >675 W of power
- Cladding power-stripping module capable of dissipating >200 W
- High-power coupler capable of dissipating >100 W.

Phase 2 results that further reduce risk for the 3-kW demonstration include:

- SBS-mitigating fiber with >10X suppression compared to the baseline

- High-power compression spool with >30X suppression
- 3-kW broadband amplifier
- High-power signal and pump combiner
- High-power splicing, recoating, isolation, and endcap technologies

A.2 Management

A program manager shall be identified by the contractor to manage the overall contract effort. The Program Manager shall be responsible for ensuring proper program planning and control, timely problem identification and resolution and adequate technical and programmatic interaction with the Government Contracting Officer's Representative (COR) and Program Manger. The contractor shall maintain a cost and schedule accounting system that allows timely, accurate assessment of the contract status. Deliverables are monthly technical reports, quarterly cost and schedule reports, kickoff and final briefing packages for each phase (Phase 1 final briefing and PDR are combined, and a final report.

NGST shall support 2 weeks of on-site performance testing by a Government team at the end of each phase of the program, if so requested. Additionally, NGST shall allow Government representatives to witness any contractor-performed tests that will be carried out, as scheduled, in order to validate performance consistent with the metrics delineated in this SOW. The final disposition of the hardware developed by NGST will be determined during the course of Phase II, if the Phase II option is exercised. The Government will, at that time, notify NGST of its intent regarding the delivery of any such hardware, to include providing delivery location, if the Government chooses to exercise its right to have the resulting hardware items delivered at government expense.

A.3 Phase 1 (M1 to M15)

The objectives of Phase 1 are to demonstrate a 1-kW SFFLA that meets the goals of Figure A1-1 and to perform risk reduction for Phase 2. The Phase 1 Program Milestones are identified at Figure A3-1 below.

Figure A3-1. Phase 1 Program Milestones

MS	Schedule	Milestone	Power	Effic.	Linewidth	BQ	PER	SBS
1	Ph1, M6	200 W amplifier test	200 W	15%	10 KHz	1.3 M^2	20:1	4X
2	Ph1, M6	1 kW broadband amp	1 kW	20%	--	1.3 M^2	20:1	1X
3	Ph1, M9	Fiber coupling and DWDM demo	300 W	38%	4 nm	--	--	--
4	Ph1, M12	Power dissipation in pump combiner package >100W						
5	Ph1, M12	Power handling of clad stripping material >200W						
6	Ph1, M12	SBS mitigating waveguide (6X)	1kW	75%	--	1.4 M^2	--	6X
7	Ph1, M15	Pump module prototype	675 W	45%	4 nm	--	--	--
8	Ph1, M15	1 kW single frequency amp	1 kW	20%	10 KHz	1.3 M^2	20:1	16X
8a	Ph1, M15	1 kW demo of combined SBS suppression from compression spool and SBS mitigating waveguide	1 kW	20%	10 KHz	1.3 M^2	20:1	16X

A.3.1 Task 1.1: 1-kW Single Frequency Amplifier Tasks (M1 to M15)

The objective is to design, fabricate and test the components of a 1-kW single-frequency amplifier. These components will also be integrated to demonstrate a 1-kW single-frequency fiber-laser amplifier (SFFLA).

a) **200-W Compression Spool Design, Fabrication and Test (M1 to M6).** The contractor shall develop requirements and the preliminary and detailed design of a 200-W compression spool. Additionally, the contractor shall fabricate and then test the compression spool on an existing fiber test bed. The contractor shall also extrapolate the 200-W performance to the 1-kW and 3-kW fiber power levels. NGST is responsible for this task. The exit criteria are demonstration of the 200 W spool (MS1 @ M6) and performance predictions for the 1-kW and 3-kW power levels.

b) **1-kW Broadband Amplifier Development (M1 to M6).** The contractor shall design, fabricate and test a 1-kW monolithic fiber broadband amplifier using commercially available high-power fiber-coupled diodes. Nufern (NU) is responsible for this task. The exit criterion is demonstration of a 1-kW broadband amplifier (MS2 @ M6).

c) **1-kW Compression Spool Design, Fabrication, Test and 1 kW SSFLA Test (M7 to M15).** The contractor shall develop requirements and shall complete the preliminary and detailed design of the 1-kW compression spool. The contractor shall conduct additional tests on the 200-W compression spool with the 1-kW broadband amplifier. The 1-kW broadband amplifier (Task 1.1.b) and compression spool shall be fabricated and integrated to demonstrate a 1-kW SFFLA that meets the Phase 1 goals in Figure III.A-1. The contractor shall also support 2 weeks of testing by a government team. NGST is responsible for this task. The exit criterion is demonstration of a 1-kW SFFLA that meets the goals of Figure III.A-1 (MS8 @ M15).

A.3.2 Task 1.2: Fiber and Coupler Risk Reduction (M1 to M12)

The objectives are to develop a fiber with a higher SBS threshold, a high-power cladding stripper, a high power coupler package, high-temperature fiber coatings, and to demonstrate that the SBS suppression from the compression spool (Task 1.1) and the high-SBS-threshold fiber are multiplicative. The contractor shall develop a fiber waveguide design that increases the SBS threshold by a factor of 6 or more over the baseline fiber. The contractor shall demonstrate a cladding power-stripping module capable of dissipating >200 W, and a coupler package capable of dissipating >100 W. The contractor shall also demonstrate high-temperature fiber coatings that can be used with the Phase-2 3-kW amplifier. The contractor shall characterize the performance of the high-SBS-threshold fiber when combined with the compression spool from Task 1.1.

NGST shall utilize Nufern (NU), a 1st tier subcontractor, as the primary performer for this task activity, except for the demonstration of the compression spool combined with the high-SBS threshold fiber. The exit criteria are demonstrations of a fiber with a 6X increase in SBS threshold (MS6 @ M12), a cladding power-stripping module capable of dissipating >200 W (MS5 @ M9), a coupler package capable of dissipating >100 W (MS4 @ M 12), fiber coatings applicable to the Phase-2 3-kW amplifier (@ M 12), and quantify the SBS suppression from the combined high-SBS threshold fiber and the compression spool (MS8a @ M15).

A.3.3 Task 1.3: Diode Development Risk Reduction (M1 to M15)

The objective is to demonstrate a prototype diode-pump module with >675 W of power and >45% wall plug efficiency (WPE) coupled through a 200 μm, 0.22 NA fiber. The contractor shall design,

fabricate and demonstrate high-efficiency fiber-coupled diode modules that meet or exceed these power and efficiency specifications.

NGST shall utilize Fraunhofer (FR), 2nd tier subcontractor to NU, as the primary performer for this task activity. The exit criteria are demonstrations of a prototype two-channel module that combines two wavelengths within the Yb absorption line (MS3 @ M9), and demonstration of a 675-W, 4 nm linewidth module with >45% WPE (MS7 @ M15).

A.3.4 Task 1.4: 3-kW Preliminary Design (M7 to M15)

The objective of this task is the preliminary design of a 3-kW SFFLA. The contractor shall complete the preliminary design of a 3-kW SFFLA and present it along with a review of the 1-kW SFFLA results at a preliminary design review (PDR).

NGST shall utilize NU, a 1st tier subcontractor, as the primary performer for this task activity. NGST shall provide the preliminary design of the 3-kW compression spool and results of the 1-kW SFFLA. The exit criterion is successful completion of the PDR at month 15, and the deliverable is the combined PDR and Phase 1 final briefing package.

A.4 Phase 2 (M16 to M33)

The Phase 2 objective is to demonstrate a 3-kW SFFLA that meets the goals of Figure A1-1. The Phase 1 Program Milestones are identified at Figure A4-1 below.

Figure A4-1. Phase 2 Program Milestones

MS	Schedule	Milestone	Power	Effic.	Linewidth	BQ	PER	SBS
9	Ph2, M21	Pump Diodes (6 units), TurnKey	675 W	45%	4 nm	--	--	--
10	Ph2, M21	High power TFB	4 kW	98%	--	1.2 M^2	30:1	--
11	Ph2, M24	SBS Mitigating Waveguide (10X)	3 kW	75%	--	1.4 M^2	30:1	10X
12	Ph2, M24	30W SF Preamplifier	30 W	--	10 kHz	1.2 M^2	30:1	--
13	Ph2, M28	3kW Broadband Amplifier	3 kW	30%	--	1.2 M^2	30:1	1X
14	Ph2, M24	Prototype Compression Spool	1 kW	20%	--	1.2 M^2	20:1	30X
15	Ph2, M27	Final Compression Spool	1 kW	20%	--	1.2 M^2	20:1	50X
16	Ph2, M33	3kW SF Amplifier	3 kW	30%	1 kHz	1.2 M^2	30:1	50X

A.4.1 Task 2.1: High-Power Component Tasks (M16 to M27)

The objective is to design, fabricate and test the high-power components needed for the 3-kW demonstration.

a) **3-kW Spool Design and Design Verification Testing (M16 to M27).** The contractor shall complete the detailed design of the 3-kW compression spool. The spool shall be fabricated and tested using the 1-kW amplifier developed in Phase 1. The contractor shall demonstrate SBS suppression of greater than 30X. Additionally, SBS suppression greater than 50X shall be demonstrated when the improved SBS mitigating fiber is used in conjunction with the 3-kW compression spool. NGST is responsible for this task. The exit criteria are demonstration of a compression spool at 1 kW with >30X SBS suppression (MS14 @ M24) and demonstration of >50X compression at 1 kW (MS15 @ M27).

b) **SBS-Mitigating Fiber Development and Test (M16 to M24).** The contractor shall develop an SBS-mitigating waveguide that demonstrates, as a goal, >10X suppression over the baseline. NU is

responsible for this task. The exit criterion is demonstration of an SBS-mitigating waveguide at ≥3 kW with >10X suppression (MS11 @ M24).

c) **High-Power Pump Module Fabrication (M16 to M21).** The contractor shall optimize the design and develop processes that enable fabrication of multiple pump modules and shall build 5 pump modules each exceeding 675 W with >45% WPE. FR is responsible for this task. The exit criterion is completion of acceptance testing of 5 high-power pump modules (MS9 @ M21).

A.4.2 Task 2.2: 3-kW Broadband Amplifier Tasks (M16 to M28)

The objectives are to demonstrate a >30-W SFFLA to be used as a pre-amplifier, a high-power signal and pump combiner, and a 3-kW broadband amplifier. The contractor shall fabricate a >30-W SFFLA, develop splicing, recoating, isolation, and endcap technologies suitable for high power handling, characterize pump modules, build and demonstrate a signal and pump combiner capable of handling >4 kW of pump power with >97% coupling efficiency, and build and demonstrate a 3-kW broadband amplifier with >30% WPE.

NGST shall utilize NU, a 1st tier subcontractor, as the primary performer for this task activity. The exit criteria are demonstration of a combiner capable of handling >4 kW of pump power with >97% coupling efficiency (MS10 @ M21), demonstration of a >30-W SFFLA (MS12 @ M24), and demonstration of a 3-kW broadband amplifier (MS13 @ M28).

A.4.3 Task 2.3: 3-kW Single-Frequency Amplifier Fabrication, Integration and Test (M28 to M33)

The objective is demonstration of a 3-kW SFFLA. The contractor shall integrate, and demonstrate a 3-kW SFFLA that meets the performance metrics listed in Figure III.A-1. This demonstration will make use of the components demonstrated on prior tasks: 3-kW compression spool, SBS-mitigating waveguide with >10X suppression, high-power signal and pump combiner, high-brightness pump modules, 30-W SFFLA and 3-kW broadband amplifier. The contractor shall also support 2 weeks of testing by a government team.

NGST shall utilize NU, a 1st tier subcontractor, for fabrication of the 3-kW broad-band fiber amplifier. NGST shall integrate the compression spool with the amplifier and other components for the final demonstration. The exit criterion is demonstration of a 3-kW SFFLA meeting the goals listed in Figure A1-1. (MS16 @ M33).

Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data or Computer Software per 252.227-7017 (JUN 1995)

The Offeror has asserted for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data or computer software should be restricted as stipulated below:

Non-commercial

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

Commercial

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

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY
3701 NORTH FAIRFAX DRIVE
ARLINGTON, VA 22203-1714

MEMORANDUM FOR CONTRACTING OFFICER'S REPRESENTATIVE

FROM: DARPA, Contracts Management Office

TO: Frank Hanson, SPAWAR

SUBJECT: Appointment as Contracting Officer's Representative (COR)

1. You are hereby appointed as the Contracting Officer's Representative for the below mentioned three (3) Revolution in Fiber Lasers (RIFL) Contracts:

RIFL Awardee	Contract No.
Fibertek, Inc.	HR0011-08-C-0123
Northrop Grumman Space and Mission Systems Corporation	HR0011-08-C-0124
OFS Laboratories	HR0011-08-C-0125

2. This appointment authorizes and designates you to perform the following duties and/or responsibilities as specified herein:

   a. Furnish plans, schedules, specifications, descriptions, and other documents to the contractor as required by the contract.

   b. Assist the contractor in interpreting technical aspects of the contract specifications/statement of work. Differences of opinion and interpretations which could affect the terms and conditions of the contract will be referred to the contracting officer for resolution.

   c. Provide Government recommendations/approvals to the contractor promptly in all cases where the contract calls for technical approval.

   d. Observe, monitor, and assess the contractor's performance under the terms of the contract. This includes reporting promptly to the contracting officer any failures, delays, or significant deviations of performance, quality, costs, or other actions which might jeopardize contract performance.

3. In the performance of the duties delegated to you in this letter, you are cautioned that you could be held personally liable for actions taken or directions given by you to the contractor that are beyond the authorities given to you in this letter. The duties or authorities in this letter are not delegable; therefore, you must advise the Contracting Officer or the Contract Administrator/Specialist immediately when you are unable to perform these duties.

4. In your dealings with the contractor you must not give technical direction as though the contractor's employees are Government employees. You must maintain a formal, arms-length relationship with the contractor in order to avoid even an appearance that the contract is one for personal services. If the contractor's performance takes place in a Government facility, then to the maximum extent practicable, the contractor's work area should be physically separated from areas in which Government employees work, and communication with the contractor's employees on contractual matters should be only through that contractor employee(s) designated by the contractor to supervise them. You must not give any direction to the contractor that is not authorized by the statement of work because it is not the intent of the Government that a contractor be required to do anything that is not included in the contract.

5. You are responsible for providing prompt notification to the contracting officer any significant deficiencies with respect to contractor performance or other actions which might jeopardize contract performance.

6. You are not authorized by this letter to take any action, either directly or indirectly, that could result in a change in the pricing, quantity, quality, place of performance, delivery schedule or any other terms and conditions of the basic contract, or to direct the accomplishment of effort which would exceed the scope of the basic contract. You must be especially cautious in providing interpretation of the specifications/ statement of work. The agreement reached or technical direction given must be formalized in writing with copies to the contracting officer. You shall also inform the contractor that if he believes that the COR's interpretation is erroneous, the contractor must notify the contracting officer in writing concerning the details of his position.

7. Specific duties in addition to those above are as follows:

    a. Control all government technical interfaces with the contractor.

    b. Ensure that copies of government technical correspondence are forwarded to the contracting officer for placement in the contract file unless otherwise posted to TFIMS by the contractor in accordance with the contract.

    c. Promptly furnish documentation on any requests for change, deviation, or waiver (whether generated by the Government or the contractor) to the contracting officer for appropriate action.

    d. Review and, if required (i.e., Fixed Price Payments), accept invoices submitted through WAWF as stipulated in Section G of the Contract.

    e. Provide required review of Patent/Invention Disclosures made in I-Edison (http://www.iedison.gov).

f. The COR must maintain a separate file for each contract for which he/she acts as COR. The file should serve as a repository and record of all documents and communications between the contractor and the COR. At a minimum, the file must include a copy of the contract and all modifications as well as the COR appointment letter. Examples of other file documentation may include:

- Reports required per the contract, e.g. interim and final technical or patent reports
- Memoranda for Record documenting important contract discussions
- Records of formal meetings, e.g. post award conference, program reviews, etc.

g. Assist ACO and/or PCO, as requested, with closeout activities at completion of contract period of performance.

8. If this is your first appointment as a COR or if you have not performed COR duties within the last two years, and in order to comply with DFARS 201.6-2, you must complete COR training immediately so that you can properly execute your responsibilities under this contract. A good source of COR training is available via a web-based module, CLC 106, "Contracting Officer Representative with a Mission Focus" at www.dau.mil.

9. Your appointment as COR for this effort expires on final disposition of the contract.

10. Your good judgment in performing your duties under the contract will have an important effect on the value of the performance obtained by the Government.

(b)(6)

DARPA PCO
Contracting Officer

9/3/08
Date

Appointee
Contracting Officer's Representative

9/03/2008
Date

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES	
U	1	3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00009	10-Mar-2010	SEE SCHEDULE	

6. ISSUED BY CODE HR0011

DARPA CMO
ATTN: MICHAEL D. BLACKSTONE
MICHAEL.BLACKSTONE@DARPA.MIL
3701 N. FAIRFAX DRIVE
ARLINGTON VA 22203-1714

7. ADMINISTERED BY (If other than item 6) CODE S0545A

DCMA NORTHROP GRUMMAN SPACE TECHNOLOGY
ONE SPACE PARK
BLDG. E-1, RM. 1081
REDONDO BEACH CA 90278-1078

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

NORTHROP GRUMMAN SPACE & MISSION SYSTEMS
1 SPACE PARK BLVD
REDONDO BEACH CA 90278-1001

CODE 11982 FACILITY CODE

	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
X	10A. MOD. OF CONTRACT/ORDER NO. HR0011-08-C-0124
X	10B. DATED (SEE ITEM 13) 19-Sep-2008

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	D. OTHER (Specify type of modification and authority) Unilateral IAW 52.217-9

E. IMPORTANT: Contractor [X] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Modification Control Number: mvessill10469

The purpose of this modification is to exercise Phase II, Option 1 (CLIN 0002) in accordance with 52.217-9. This action also provides incremental funding in the amount of $2,945,912 (AO No. X670/21) for Phase II. See page two (2).

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) MICHAEL D. BLACKSTONE / PCO TEL: (571) 218-4804 EMAIL: michael.blackstone@darpa.mil	
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 10-Mar-2010

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

The following has been revised as indicated below:

1. SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $4,629,905.00 from $4,514,076.00 to $9,143,981.00.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0002
The option status has changed from Option to Option Exercised.

SUBCLIN 000201 is added as follows:

ITEM NO		AMOUNT
000201	funding for CLIN 0001 only	$0.00
	AO No. X670/21	
	ACRN AC	$2,945,912.00

2. SECTION F - DELIVERIES OR PERFORMANCE

F-2 Reports and Other Deliverables

The following have been modified:

(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)
0001,0002	R&D Status Reports	Monthly IAW Section C-2
0001,0002	Interim R&D Technical Reports	Quarterly IAW Section C-2
0001,0002	RIFL Final Report	8 February 2010 If option is exercised, **1 September 2011**
0001,0002	Additional Misc. Deliverables	As required IAW Section C-2

(end of clause)

3. 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 $2,945,912.00 from $4,514,076.00 to $7,459,988.00.

SUBCLIN 000201:
Funding on SUBCLIN 000201 is initiated as follows:

ACRN: AC

CIN: 00000000000000000000000000000

Acctng Data: 9700400 1320 X670 P0G10 2525 DPAC 0 5016 S12136 62702E

Increase: $2,945,912.00

Total: $2,945,912.00

G-6 Incremental Funding

The following has been modified as bolded below:

(a) This contract shall be subject to incremental funding, as indicated in the table below, which is presently made available for performance under this contract. It is estimated that the funds presently available are sufficient to permit the Contractor's performance through the performance end dates indicated in the table below. 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 the funds listed in the table below shall arise unless and until additional funds are made available by the Contracting Officer through a modification to this contract.

Phase	**CLIN**	**Funding Provided to Date**	**Funding Period of Performance End Date**
1	0001	$4,514,076	15 February 2010
2	**0002**	**$2,945,912**	**$2,945,912**

(end of clause)

4. Except as modified herein, all terms and conditions of HR0011-08-C-0124 shall remain unchanged and in full force and effect.