

AWARD/CONTRACT		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)		RATING	PAGE OF PAGES 1 37
2. CONTRACT (Proc. Inst. Ident.) NO. HR0011-07-C-0060		3. EFFECTIVE DATE 27 JUN 2007		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. W800	
5. ISSUED BY DARPA CMO ATTN: [REDACTED] 3701 NORTH FAIRFAX DRIVE ARLINGTON VA 22203-1714		CODE HR0011	6. ADMINISTERED BY (If other than Item 5) DCMA NORTHERN CALIFORNIA 700 EAST ROTH ROAD BLDG 330 FRENCH CAMP CA 95231-0232		CODE S0507A
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code) SRI INTERNATIONAL 333 RAVENSWOOD AVENUE MENLO PARK CA 94025			8. DELIVERY [] FOB ORIGIN [X] OTHER (See below)		9. DISCOUNT FOR PROMPT PAYMENT NONE
CODE 03652			FACILITY CODE		10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: Section G
11. SHIP TO/MARK FOR SEE SECTION F AA		CODE	12. PAYMENT WILL BE MADE BY DFAS COLUMBUS CENTER WEST ENTITLEMENT OPERATIONS P.O. BOX 182381 COLUMBUS OH 43218-2381		CODE HQ0339
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					\$9,940,742.00
16. TABLE OF CONTENTS					
(X) SEC.	DESCRIPTION	PAGE(S)	(X) SEC.	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE			PART II - CONTRACT CLAUSES		
X A	SOLICITATION/ CONTRACT FORM	1	X J	CONTRACT CLAUSES	14-22
X B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2-3	PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS		
X C	DESCRIPTION/ SPECS/ WORK STATEMENT	3-7	X J	LIST OF ATTACHMENTS	22
X D	PACKAGING AND MARKING	7	PART IV - REPRESENTATIONS AND INSTRUCTIONS		
X E	INSPECTION AND ACCEPTANCE	7	X K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	23-37
X F	DELIVERIES OR PERFORMANCE	7-9	L	INSTRS, CONDS, AND NOTICES TO OFFERORS	
X G	CONTRACT ADMINISTRATION DATA	9-10	M	EVALUATION FACTORS FOR AWARD	
X H	SPECIAL CONTRACT REQUIREMENTS	10-14			
CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE					
17. [X] CONTRACTOR'S NEGOTIATED (Contractor is required to sign this document and return 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) [REDACTED] Division Manager of Contracts			20A. NAME AND TITLE OF CONTRACTING OFFICER [REDACTED] (b)(6)		
19B. NAME OF CONTRACTOR SRI International		19C. DATE SIGNED [REDACTED] (b)(6)	20C. DATE SIGNED 27 JUN 2007		
BY [REDACTED] (Signature of person authorized to sign)		18 June 2007			

B-1 Services and Costs

<u>CLIN</u>	<u>SUPPLIES/SERVICES</u>	<u>ESTIMATED COST</u>	<u>FIXED FEE</u>	<u>TOTAL EST. COST PLUS FIXED FEE</u>
0001	PLATO - Phased Learning through Analyzing Teaching and Observation - Phase 1			
000101	Funding for CLIN 0001 PURCHASE REQUEST NUMBER W800	\$0	\$0	\$0
	ACRN AA Funded Amount:			\$5,378,260
0002	Reports/Deliverables	*NSP	NSP	NSP
000201	Quarterly R&D Status Report	\$0	\$0	\$0
000202	Special Technical Report	\$0	\$0	\$0
000203	Final Technical Report	\$0	\$0	\$0
000204	DARPA/IPTO Quarterly Status Report	\$0	\$0	\$0
000205	Annual Project Summary Report	\$0	\$0	\$0
TOTAL 0001/0002 CONTRACT CONSIDERATION:				
0003	PLATO - Phased Learning through Analyzing Teaching and Observation - Phase 2/Option 1			
0004	Reports/Deliverables Option 1	*NSP	NSP	NSP
000401	Quarterly R&D Status Report	\$0	\$0	\$0
000402	Special Technical Report	\$0	\$0	\$0
000403	Final Technical Report	\$0	\$0	\$0
000404	DARPA/IPTO Quarterly Status Report	\$0	\$0	\$0
000405	Annual Project Summary Report	\$0	\$0	\$0
TOTAL 0003/0004 CONTRACT CONSIDERATION:				
		\$8,275,222		
0005	PLATO - Phased Learning through Analyzing Teaching and Observation -			

Phase 3/Option 2

		*NSP	NSP	NSP
0006	Reports/Deliverables Option 2			
000601	Quarterly R&D Status Report	\$0	\$0	\$0
000602	Special Technical Report	\$0	\$0	\$0
000603	Final Technical Report	\$0	\$0	\$0
000604	DARPA/IPTO Quarterly Status Report	\$0	\$0	\$0
000605	Annual Project Summary Report	\$0	\$0	\$0

TOTAL 0005/0006 CONTRACT CONSIDERATION: (b)(4) **\$8,609,386**

***Not Separately Priced**

Section C: Description/Specifications/Work Statement

C-1 Scope of Work

(a) The Contractor shall furnish the necessary personnel, materials, facilities and other services as may be required to perform the work set forth herein and as specified in the (b)(4) (b)(4)

(b)(4)

(b) Statement of Work.

(1) OBJECTIVE AND SCOPE OF EFFORT

The objective of DARPA's Bootstrapped Learning (BL) program is the creation of instructable computing systems that would enable an entirely new usage model, where computing-system behaviors are taught rather than programmed. Such a capability would allow users to self-customize their systems in the field without extensive re-programming. The BL program plans to demonstrate feasibility of the concept. The objective of the proposed work is the design and implementation of an electronic student that can be "guided" by an "expert" instructor to learn any performance task that is expressible using some pre-enumerated set of teaching methods. These knowledge-transfer techniques are called natural instruction methods (NIMs) – specific ways that human instructors interact with their students; each NIM can utilize one or more interaction modalities, which are abstractions of the physical communication channels (e.g., speech, gesture, photograph, sketch, etc.) The electronic student requires a learning capability distinct from the data-intensive methods that are the primary focus in the Machine Learning community. A diverse collection of curricula (all but one developed by other BL contractors) expressed in a standardized format will be used to instruct the electronic student.

SRI International (SRI) (b)(4)

(b)(4)

PLATO will be an active learner, continually posing questions and hypotheses to itself and to the teacher, and actively looking for answers to those questions and for evidence that confirm or disconfirm its hypotheses. SRI will develop a set of learning services, a Control Module (CM),

a set of learning strategies, an Inference Core, an Instructor Interface (and supporting language translator), and a Knowledge Management module. All of these components will use a common language, the Interlingua, which is used for representing knowledge and also as a control language.

In Phase 1, SRI will receive an expository curriculum created by the seedling effort as well as diversity curricula from the Curriculum Team. The expository curriculum is a risk mitigation construct created to facilitate the compatibility of the learning system with the BL framework and associated APIs. 100% of graduate performance is expected as this reflects compatibility with the exposition curriculum.

SRI will ensure that, during testing of the diversity curricula received in Phase 1, the learning system will employ no fewer than three different input modalities of the interaction language, two different learning processes, and three rungs of the ladder and will demonstrate this learning performance across all four categories of instruction. Although there are no performance thresholds for the diversity curricula in Phase 1, to minimize risk to the program, SRI will actively build and test learners against the curricula provided by the Curriculum Team throughout Phase 1. An early goal is for the *lazy student* (see below) to achieve mastery against all of these curricula.

The *lazy student* is an implementation of the electronic student that can learn any curriculum by "cheating" on every lesson. Cheating involves requesting the answer to a lesson, receiving the answer as injected knowledge, and integrating the answer into the existing knowledge stores. If the electronic student has integrated the injected knowledge successfully, it will answer correctly when tested again on the same lesson.

During Phases 2 and 3, SRI will accept government-validated curricula from the Curriculum Team. SRI will develop the learning system to meet the performance threshold requirements for those Phases as laid out in the BL Proposer Information Pamphlet (PIP) for DARPA BAA 07-04.

An NIM contract, as defined in the Bootstrapped Learning Proposer Information Pamphlet, is a formal specification governing student/teacher interaction for a specific NI method that describes the way instructional materials are allowed to be composed using the interaction modalities provided by the interaction language.

The Government will furnish SRI with genetic knowledge (from the curriculum team), which includes the interaction language specification, the Interlingua specification, and a series of NIM contracts that specifies a relaxation trajectory.

(2) TASKS

We first describe how the enumerated tasks will evolve over the three phases of the BL Program. SRI will exert its best efforts to meet the performance requirements of each Phase. Phase 1: SRI will perform the following tasks using a curriculum package developed by the SRI team and a subset of the learning strategies. We will focus on releasing four learning strategies in Phase 1. Phases 2 and 3: SRI will negotiate an appropriate relaxation trajectory with the Government [PIP, p.77]. Most of the curricula generated in the BL Program are called diversity ladders. Phase 2 will call for hidden ladders, military transfer ladders, and one human comparison ladder [PIP, p.28]. SRI will perform the following tasks to extend all components to perform appropriately with all the curricula packages provided by the Government in Phases 2 and 3. Additional learning strategies will be released in Phases 2 and 3. The initial release dates of each learning strategy are specified in this section (see Figure I-1 of the Contractor's proposal incorporated in Article C-1(a) above for a summary of evolution over phases). The tasks below and the responsibilities of each team member are depicted graphically in Figure G-1 of the proposal.

(i) Control Module and Integration Architecture

SRI and its team members will design and implement the PLATO system. SRI, [REDACTED] will develop a ladder curriculum (described in detail in Section I) in Phase 1 for the Robocup domain. A curriculum is defined as a collection of information and processes that, in its entirety, provides an environment sufficient for a learning system to learn a specific goal behavior; includes common knowledge, domain-specific injected knowledge, lessons, automated instruction, a world simulator, and a simulator interface (these terms are explained below). In short, a curriculum is everything outside of the learning system that is needed for learning a single competency.

Specific subtasks are:

- Control Module and the LCS: SRI will design and implement these, with assistance from [REDACTED] will develop control procedures and algorithms for using causal models to adjust the control processes within the CM and to adjust the relative weights of knowledge being incorporated into the Knowledge Repository. [REDACTED] will develop control procedures and algorithms for meta-learning, which PLATO will use to adapt its LCS by adjusting the focus of attention.
- Algorithms: [REDACTED] will assist in the algorithmic design.
- Knowledge Management: [REDACTED] will assist SRI in developing this module and integrating the GBBopen architecture.

- Execution Engine: SRI will design and implement this module, which incorporates the BL Interlingua interpreter.
- Instructor Interface: SRI will design and implement this module with the assistance of (b)(4) and in collaboration with the BL Curriculum Team. This task includes defining/implementing the NIM protocols, with (b)(4) leading the effort for "telling" NIMs, (b)(4) leading the effort for "learning by indirect cues" NIMs, (b)(4) leading the team effort for "feedback" NIMs, and (b)(4) leading the team effort for "constraints and functions from instances" NIMs.
- Inference Core: (b)(4) will lead the MLN Inference Core design, which SRI will implement. The design will support the integration of the outputs of all the other learning components and support metalearning, and develop enhancements to MLNs to support probabilistic dependency models.

(ii) Learning Strategies and NIMs

SRI and (b)(4) will direct and coordinate the team in designing and implementing learning strategies that can work together synergistically and work seamlessly with the CM. Many learning strategies accept inputs from simulations. All SRI subcontractors producing learning services and strategies will work with all team members to define and support collaborative multi-component learning processes. The most important strategies SRI will develop are listed below. Work will begin on all strategies in Phase 1, but only four (specified below) will be released for testing and evaluation in Phase 1.

- (b)(4) will lead the team effort to define PLATO's learning strategies for "telling" NIMs.
- (b)(4) will develop control procedures and algorithms for learning processes based on linguistic instruction. Initial release: Phase 1.
- (b)(4) will develop control procedures and algorithms for learning mappings from indirect cues. Initial release: Phase 1.
- (b)(4) will develop control procedures and algorithms for learning function and constraints by being told. Initial release: Phase 1.
- (b)(4) will lead the team effort to define PLATO's learning strategies for "learning by indirect cues" NIMs.
- (b)(4) will develop control procedures and algorithms for learning simplifications in previously learned knowledge. Initial release: Phase 1.
- (b)(4) will develop control procedures and algorithms for predicting gestures and learning from those predictions. Initial release: Phase 1.
- (b)(4) will lead the team effort to define PLATO's learning strategies for "feedback" NIMs.
- (b)(4) will develop control procedures and algorithms for learning through feedback based on score. Initial release: Phase 1.
- (b)(4) will develop control procedures and algorithms for learning through feedback based on explanations. Initial release: Phase 1.

Phase 2.

- (b)(4) will lead the team effort to define PLATO's learning strategies for "constraints and functions from instances" NIMs.
- (b)(4) will build a learning strategy to learn constraints and functions from instances provided by the instructor. Initial release: Phase 3.
- (b)(4) will build a learning strategy to learn derivations from instances provided by the instructor. Initial release: Phase 3.
- (b)(4) will build a learning strategy to learn processes from demonstrations by the teacher. Initial release: Phase 1.
- Exploration: (b)(4) will develop control procedures and algorithms for explorative learning, which includes determining what to explore and how to explore it. Initial release: Phase 3.
- (b)(4) will develop control procedures and algorithms to learn about functions and constraints from both generalities and instances. Initial release: Phase 3.

(iii) Algorithms and Learning Services

SRI and (b)(4) will direct and coordinate the team in designing and implementing learning services that work seamlessly with the learning strategies and provide the services needed by the latter. The services will accept Interlingua descriptions as input and will output weighted Interlingua statements, unless otherwise specified. Each will be initially released in Phase 1.

- (b)(4) will build a learning service, based on RL techniques, which learn MDPs.
- (b)(4) and SRI will implement a translator from the BL Interaction Language into the Interlingua. (b)(4) will develop a learning service for learning syntax and semantics for this translation.
- (b)(4) will build a learning service based on ILP, which learns predicates.
- (b)(4) will build a learning service based on ILP, which learns numeric functions.
- (b)(4) will build a learning service based on support-vector regression machines and ILP linear regression, which learns numeric functions.

(iv) System Integration and Experimentation Support Tasks

SRI will design, implement and document the application programmer interfaces (APIs) and infrastructure necessary to integrate all the components of PLATO. SRI and its subcontractors will integrate their tools to work within the PLATO system, and support the experiments at the end of each Phase. We will develop and test all necessary interfaces to permit our tools to function effectively and seamlessly within PLATO.

(v) Program Management Tasks

SRI will manage the team to achieve customer goals and produce the deliverables summarized in Section I. This task includes developing a project plan, monitoring progress and financial status, writing timely technical and financial reports as specified in our deliverables, attending DARPA Kickoff and Principal Investigator (PI) meetings, making oral presentations at PI meetings, establishing a Web site for the project describing progress and results, collaborating with other BL contractors, and rapidly integrating customer feedback. This task is ongoing and exits when the project plan is complete.

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:

000201/000401/000601 - Quarterly R&D Status Report

This brief narrative, not to exceed three (3) pages in length, shall be prepared in Contractor format in accordance with the proposal referenced in Article C-1.

000202/000402/000602 - Special Technical Report.

This report, prepared in accordance with Data Item DI-MISC-80711A, shall document the results of any significant task, system test, event, demonstration, or symposium. This category of reports shall include, at a minimum, the computer software and/or technical data, software systems, and software documentation detailed in the Contractor's proposal referenced in Article C-1. The title page and summary shall be the same as that indicated for Item No. 000203.

000203/000403/000603 - Final Technical Report.

This report, prepared in accordance with Data Item DI-MISC-80711A, shall document the results of the complete effort and include completed versions of all deliverables. The title page shall include a disclaimer worded substantially as follows:

"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 or the U.S. Government."

The final technical report summary shall include:

- Task Objectives
- Technical Problems
- General Methodology (i.e., literature review, laboratory experiment, survey, etc.)
- Technical Results
- Important Findings and Conclusions
- Significant Development (e.g., hardware, software, systems)
- Special Comments
- Implications for Further Research
- Standard Form 298, Report Documentation Page

000204/000404/000604 - DARPA/IPTO Quarterly Status Report.

These reports, prepared in accordance with Data Item Description (DID) DI-MISC-81612A, available on the Government's ASSIST database (<http://astimage.daps.dla.mil/quicksearch/>), shall be electronically submitted via the DARPA/IPTO Technical – Financial Information Management System (T-FIMS). The T-FIMS URL will be furnished by the Government upon award. The Quarterly Status Report due on July 31 of each year of the contract shall be submitted as the Annual Project Summary Report described below.

000205/000405/000605 - Annual Project Summary Report.

These reports, prepared in accordance with Data Item Description (DID) DI-MISC-81612A, available on the Government's ASSIST database (<http://astimage.daps.dla.mil/quicksearch/>), shall be electronically submitted via the DARPA/IPTO Technical – Financial Information Management System (T-FIMS). The T-FIMS URL will be furnished by the Government upon award.

(b) Reports delivered and specific materials and designs developed by the Contractor in the performance of the contract shall be considered "Technical Data" as defined in the applicable Rights in Technical Data Clause incorporated by reference in Section I.

(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 that sponsorship. In addition, a bibliography of the titles and authors of all such papers are to be included in the Final Technical Report.

(e) The cover or title page of each of the above reports or publications prepared will have the following acknowledgement of support:

This material is based upon work supported by the
Defense Advanced Research Projects Agency
DARPA/IPTO
(Effort/Program Title)
ARPA Order No. W800
Program Code No. 7520
Issued by DARPA/CMO under Contract #HR0011-07-C-0060

(f) All technical reports must (1) be prepared in accordance with American National Standards Institute Standard/National Information Standards Organization (ANSI/NISO) Z39.18-1995, "Scientific and Technical Reports – Elements, Organization, and Design," approved March 21, 1995, (2) include a Standard Form 298, and (3) be marked with an appropriate Distribution Statement.

Section D: Packaging and Marking

D-1 Packaging and Marking

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

Section E: Inspection and Acceptance

E-1 Inspection and Acceptance at Destination

Inspection and acceptance of all items shall be made at destination by the receiving activity.

CLAUSES INCORPORATED BY REFERENCE

DFARS 252.246-7000 Material Inspection and Receiving Report MAR 2003

Section F: Deliveries or Performance

F-1 Term of Contract

The term of the contract commences on the effective date of this contract and continues through July 31, 2008. Exercise of each Option will extend this term by twelve months.

F-2 Reports and Other Deliverables

(a) Delivery of all reports and other deliverables shall be made to the addressees specified in Article F-3 in accordance with the following:

<u>Item No.</u>	<u>Description</u>	<u>Due Date</u> (on or before)
000201	Quarterly R&D Status Report	Quarterly, commencing July 31, 2007
000202	Special Technical Report	As required
000203	Final Technical Report	July 31, 2008
000204	DARPA/IPTO Quarterly Status Report	Quarterly, commencing July 31, 2007
000205	Annual Project Summary Report	July 31, 2007
[Option 1 Reports/Deliverables]		
000401	Quarterly R&D Status Report	Quarterly, commencing at end of month following exercise of Option 1
000402	Special Technical Report	As required
000403	Final Technical Report	July 31, 2009
000404	DARPA/IPTO Quarterly Status Report	Quarterly, commencing October 31, 2008
000405	Annual Project Summary Report	July 31, 2008
[Option 2 Reports/Deliverables]		
000601	Quarterly R&D Status Report	Quarterly, commencing at end of month following exercise of Option 2
000602	Special Technical Report	As required
000603	Final Technical Report	July 31, 2010
000604	DARPA/IPTO Quarterly Status Report	Quarterly, commencing October 31, 2009
000605	Annual Project Summary Report	July 31, 2010

F-3 Distribution of Reports and Other Deliverables

- (a) DARPA/IPTO
ATTN: Dr. Dan Oblinger
3701 N. Fairfax Drive
Arlington, VA 22203-1714
(One copy of each deliverable)
- (b) DARPA/FA
ATTN: Library
(One copy of 000203, 000403, 000603)
- (c) Defense Technical Information Center
ATTN: DTIC-O
8725 John J. Kingman Road
Ft. Belvoir, VA 22060-6218
(Two copies of each technical report)

[NOTE: For submission of reports in other than paper copy, contact DTIC or follow the instructions at <http://www.dtic.mil>]

- (d) Mr. Dale Van Cleave

AFRL/IFSC, Building 620
 2241 Avionics Circle
 WPAFB, OH 45433-7334
 (One copy of each deliverable)

F-4 Notice Regarding Late Delivery

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.

Section G: Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 9770400 1320 W800 P7520 2525 DPAC 7 5223 S12136 62304E
 AMOUNT: \$5,378,260.00

G-1 Electronic Submission of Payment Requests

(a) A Cost Voucher identified by contract number shall be submitted for payment directly via the Internet to Wide Area Workflow Receipt and Acceptance at <https://wawf.cb.mil>

(b) Final cost vouchers shall be submitted for review and approval to the following **(with a copy to both the Procuring Contracting Officer and the Administrative Contracting Officer)**:

Defense Contract Audit Agency
 Peninsula Branch Office
 480 San Antonio Road, Suite 150
 Mountain View, CA 94040-1218

G-2 Contract Administration

The Government may contact the following Contractor representative for prompt action on matters pertaining to administration of the contract:

(b)(6)

Contracts Manager

Telephone: 650-859-2004

Fax: 650-859-6171

E-mail: (b)(6)@sri.com

G-3 Delegation of Authority for Contract Administration

DCMA Northern California is hereby designated as the Contracting Officer's authorized representative for administering this contract in accordance with current directives. Pursuant to FAR 42.302(b)(11), the contract administration office is specifically authorized to prepare the evaluation of the Contractor's performance in accordance with FAR Subpart 42.15.

G-4 Payment of Cost and Fee

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

(a) Costs, as provided for under the contract clause entitled "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."

(1) Indirect Costs. For the period of this contract, subject to the establishment of final annual indirect cost rate(s), the Contractor shall be reimbursed at billing rate(s) established by the Contracting Officer or by an authorized Representative (the cognizant auditor), in accordance with paragraph (e) of the contract clause, "Allowable Cost and Payment."

(b) A fixed fee in the amount set forth as "Fixed Fee" in Section B, in accordance with the contract clause entitled "Fixed Fee," which shall be paid upon completion of the work required under this contract and upon final acceptance by the Contracting Officer; however, 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.

G-5 Payment Instructions

The payment office shall liquidate funds on a first in/first out basis. The earliest assigned ACRN must be fully disbursed before making disbursements from a succeeding ACRN. Payments under contract line items funded by multiple accounting classification citations shall be made from the earliest available fiscal year funding sources.

G-6 Summary for the Payment Office

- (a) Amount of funds obligated by prior contract actions: \$0
- (b) Amount of funds obligated by the instant contract/modification: \$5,378,260
- (c) Total cumulative amount of obligated funds: \$5,378,260

Section H: Special Contract RequirementsH-1 Contracting Officer

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. The Contracting Officer may be contacted by e-mail at douglas.pollock@darpa.mil.

H-2 Contracting Officer's Representative (COR)

(a) Performance of work under this contract shall be subject to the technical direction of (b)(6) AFRL/IFSC, telephone: (937) 255-4709, X3167; e-mail: (b)(6)@wpaf.af.mil; fax: (937) 255-4938. Such technical direction includes those instructions to the Contractor necessary to accomplish the Statement of Work.

(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 the contract clause entitled "Changes";
- (3) In any manner causes an increase or decrease in the total estimated cost, the fixed fee, or the time required for contract performance; or
- (4) Changes any of the stated terms, conditions, or specifications of the contract.

H-3 Key Personnel

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

- (1) Personnel identified in the proposal as key individuals to be assigned for participation in the performance of the contract;
- (2) Personnel whose resumes were submitted with the proposal, or
- (3) Individuals who are designated as key personnel by agreement of the Government and the Contractor during negotiations.

(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.

H-4 Restriction on Printing

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.

H-5 Insurance Schedule

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 and coverage listed in paragraphs (d) and (e) shall also be maintained when applicable.

H-6 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 COR. 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.

(b) When submitting material for clearance for open publication, the Contractor must furnish the DARPA Technical Information Officer (TIO) with five copies and allow four weeks for processing. Viewgraph presentations must be accompanied by a written text. Whenever a paper is to be presented at a meeting, the Contractor must indicate the exact dates of the meeting or the Contractor's date deadline for submitting the material.

H-7 Travel

(a) 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. 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.

(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.

(d) All foreign travel shall be authorized and approved in advance, in writing, by the Contracting Officer. Request for such travel must be submitted through the COR 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.

H-8 Consent to Subcontract

(a) Pursuant to the clause of the General Provisions entitled "Subcontracts (AUG 1998)," FAR 52.244-02, and Alternate I (JAN 2006), consent from the Administrative Contracting Officer (ACO) must be obtained prior to the placement of any subcontracts meeting the criteria set forth in FAR 44.201-1(b).

(b) Pursuant to FAR 44.201-1(a), ACO consent is not required for subcontracts as long as the Contractor maintains an approved purchasing system.

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 operation, 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 operation interfaces between metric items and U.S. customary items will be designed to assure that interchangeability and interoperability will not be adversely 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 semifabricated materials, which are of commercial design, will be specified in metric units only when economically available and technically 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.

H-10 Option for Additional Line Items

The options for CLINs 0003 through 0006 may be exercised at any time before expiration of the contract provided written notice is furnished to the Contractor of the Government's intention to exercise the options at least 30 days in advance.

H-11 Information Technology (IT) Resources

(a) Performance of this contract will require use of IT resources including hardware and/or computing services, as detailed in the Contractor's proposal referenced in Article C-1. Acquisition of these resources (or equivalents) is hereby authorized for the base contract period and each option, when exercised.

(b) The costs incurred by the Contractor in acquiring the IT resources listed in paragraph (a) above shall be considered allowable costs under the contract provided that the total net amount of the IT resources does not exceed \$325,186 (base + options). The Contractor shall have

no obligation to acquire IT resources and the Government shall have no obligation to reimburse any amount for IT resources in excess of the amount set forth above unless the contract is amended to increase this amount.

(c) Any hardware IT resources listed above shall be considered Government Property and shall be subject to the provisions of FAR 52.245-05, incorporated by reference 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.

H-12 Incremental Funding

This contract shall be subject to incremental funding with \$5,378,260 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 December 31, 2007. Except in accordance with the Section I clause FAR 52.232-22, "Limitation of Funds," no legal liability on the part of the Government for payment of any money in excess of \$5,378,260 shall arise unless and until additional funds are made available by the Contracting Officer through an amendment to this contract.

H-13 Precontract Costs

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 1.

(b)(4)

H-15 Intellectual Property Rights

(a) All technical data, computer software and other items, components, processes (and rights therein) to be delivered under this contract shall be provided to the Government with unlimited rights except as stipulated otherwise in paragraph (b) below.

(b) All computer software developed and/or delivered under this contract shall be made available in accordance with the BSD license found at <http://www.opensource.org/licenses/bsd-licnese.php>. The Government shall have only the rights specified in the Apache 2.0 Open Source License for the commerical computer software identified as "GBBOpen."

H-16 Human Subjects

Contract funds may NOT be used for research involving human subjects that is covered by 32 CFR part 219.

H-17 Title to Equipment: Nonprofit

In accordance with FAR 35.014, "Government Property and Title," title to equipment purchased with funds available for research and having an acquisition cost of \$5,000 or more shall vest in the Contractor.

H-18 Export Control

(a) As required, the contractor shall comply with all U.S. export control laws and regulations, including the International Traffic in Arms Regulations (ITAR), 22 DFR 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, for obtaining the appropriate licenses or other approvals, if required, for exports of 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 within the U.S. or elsewhere), 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.

Section I Contract Clauses

(a) FAR 52.252-02 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://www.arnet.gov/far/>

I. FEDERAL ACQUISITION REGULATION (FAR) (48 CFR CHAPTER 1) CLAUSES:

FAR 52.202-01	Definitions (JUL 2004)
FAR 52.203-03	Gratuities (APR 1984)
FAR 52.203-05	Covenant Against Contingent Fees (APR 1984)
FAR 52.203-06	Restrictions on Subcontractor Sales to the Government (SEP 2006)
FAR 52.203-07	Anti-Kickback Procedures (JUL 1995)
FAR 52.203-08	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity (JAN 1997)
FAR 52.203-10	Price or Fee Adjustment for Illegal or Improper Activity (JAN 1997)
FAR 52.203-12	Limitation on Payments to Influence Certain Federal Transactions (SEP 2005)
FAR 52.204-04	Printed or Copied Double-Sided on Recycled Paper (AUG 2000)
FAR 52.204-07	Central Contractor Registration (JUL 2006), as modified by DFARS 252.204-7004 Alternate A (NOV 2003)
FAR 52.209-06	Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (SEP 2006)
FAR 52.211-05	Material Requirements (AUG 2000)
FAR 52.215-02	Audit and Records—Negotiation (JUN 1999) [with Alternate II (APR 1998) for cost reimbursement contracts with educational institutions and other nonprofit organizations]
FAR 52.215-08	Order of Precedence—Uniform Contract Format (OCT 1997)
FAR 52.215-10	Price Reduction for Defective Cost or Pricing Data (OCT 1997)
FAR 52.215-12	Subcontractor Cost or Pricing Data (OCT 1997)
FAR 52.215-15	Pension Adjustments and Asset Reversions (OCT 2004)
FAR 52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other Than Pensions (JUL 2005)
FAR 52.215-21	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data – Modifications (OCT 1997)
FAR 52.216-07	Allowable Cost and Payment (DEC 2002), as modified in accordance with FAR 16.307(a)(1)
FAR 52.216-08	Fixed Fee (MAR 1997)
FAR 52.219-08	Utilization of Small Business Concerns (MAY 2004)
FAR 52.222-01	Notice to the Government of Labor Disputes (FEB 1997)

FAR 52.222-02	Payment for Overtime Premiums (JUL 1990) (Note: The word "zero" is inserted in the blank spaces indicated by an asterisk)
FAR 52.222-03	Convict Labor (JUN 2003)
FAR 52.222-04	Contract Work Hours and Safety Standards Act - Overtime Compensation (JUL 2005)
FAR 52.222-19	Child Labor – Cooperating with Authorities and Remedies (JUN 2004)
FAR 52.222-21	Prohibition of Segregated Facilities (FEB 1999)
FAR 52.222-26	Equal Opportunity (MAR 2007)
FAR 52.222-35	Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (SEP 2006)
FAR 52.222-36	Affirmative Action for Workers with Disabilities (JUN 1998)
FAR 52.222-37	Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (SEP 2006)
FAR 52.222-38	Compliance with Veterans' Employment Reporting Requirements (DEC 2001)
FAR 52.223-06	Drug-Free Workplace (MAY 2001)
FAR 52.223-14	Toxic Chemical Release Reporting (AUG 2003)
FAR 52.225-08	Duty-Free Entry (FEB 2000)
FAR 52.225-13	Restrictions on Certain Foreign Purchases (FEB 2006)
FAR 52.227-01	Authorization and Consent (JUL 1995) and Alternate I (APR 1984)
FAR 52.227-02	Notice and Assistance Regarding Patent and Copyright Infringement (AUG 1996)
FAR 52.228-07	Insurance—Liability to Third Persons (MAR 1996)
FAR 52.232-09	Limitation on Withholding of Payments (APR 1984)
FAR 52.232-17	Interest (JUN 1996)
FAR 52.232-23	Assignment of Claims (JAN 1986)
FAR 52.232-25	Prompt Payment (OCT 2003) and Alternate I (FEB 2002) if contract is for services
FAR 52.232-33	Payment by Electronic Funds Transfer -- Central Contractor Registration (OCT 2003)
FAR 52.233-01	Disputes (JUL 2002)
FAR 52.233-03	Protest After Award (AUG 1996) and Alternate I (JUN 1985)
FAR 52.233-04	Applicable Law for Breach of Contract Claim (OCT 2004)
FAR 52.242-01	Notice of Intent to Disallow Costs (APR 1984)
FAR 52.242-04	Certification of Final Indirect Costs (JAN 1997)
FAR 52.242-13	Bankruptcy (JUL 1995)
FAR 52.242-15	Stop-Work Order (AUG 1989) and Alternate I (APR 1984)
FAR 52.243-02	Changes -- Cost-Reimbursement (AUG 1987) and Alternate V (APR 1984)
FAR 52.244-02	Subcontracts (AUG 1998) and Alternate I (JAN 2006)
FAR 52.244-05	Competition in Subcontracting (DEC 1996)
FAR 52.244-06	Subcontracts for Commercial Items (MAR 2007)
FAR 52.245-05	Government Property (Cost-Reimbursement, Time-and-Material or Labor-Hour Contracts) (MAY 2004)(DEV) and Alternate I (JUN 2003)
FAR 52.245-19	Government Property Furnished "As Is" (APR 1984)
FAR 52.246-09	Inspection of Research and Development (Short Form) (APR 1984)
FAR 52.246-23	Limitation of Liability (FEB 1997)
FAR 52.247-01	Commercial Bill of Lading Notations (FEB 2006)
FAR 52.247-63	Preference for U.S.-Flag Air Carriers (JUN 2003)
FAR 52.249-06	Termination (Cost Reimbursement) (MAY 2004)
FAR 52.249-14	Excusable Delays (APR 1984)
FAR 52.251-01	Government Supply Sources (APR 1984)
FAR 52.253-01	Computer Generated Forms (JAN 1991)

II. DEPARTMENT OF DEFENSE FAR SUPPLEMENT (DFARS) (48 CFR CHAPTER 2) CLAUSES:

DFARS 252.201-7000	Contracting Officer's Representative (DEC 1991)
DFARS 252.203-7001	Prohibition on Persons Convicted of Fraud or Other Defense-Contract-Related

	Felonies (DEC 2004)
DFARS 252.204-7003	Control of Government Personnel Work Product (APR 1992)
DFARS 252.204-7004	Required Central Contractor Registration Alt. A (NOV 2003)
DFARS 252.215-7000	Pricing Adjustments (DEC 1991)
DFARS 252.223-7004	Drug-Free Work Force (SEP 1988)
DFARS 252.225-7012	Preference for Certain Domestic Commodities (JAN 2007)
DFARS 252.227-7013	Rights in Technical Data - Noncommercial Items (NOV 1995)
DFARS 252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation (JUN 1995)
DFARS 252.227-7016	Rights in Bid or Proposal Information (JUN 1995)
DFARS 252.227-7017	Identification and Assertion of Use, Release, or Disclosure Restrictions (JUN 1995)
DFARS 252.227-7019	Validation of Asserted Restrictions--Computer Software (JUN 1995)
DFARS 252.227-7027	Deferred Ordering of Technical Data or Computer Software (APR 1988)
DFARS 252.227-7030	Technical Data - Withholding of Payment (MAR 2000)
DFARS 252.227-7037	Validation of Restrictive Markings on Technical Data (SEP 1999)
DFARS 252.231-7000	Supplemental Cost Principles (DEC 1991)
DFARS 252.232-7003	Electronic Submission of Payment Requests (MAR 2007)
DFARS 252.232-7010	Levies on Contract Payments (DEC 2006)
DFARS 252.235-7010	Acknowledgment of Support and Disclaimer (MAY 1995)
DFARS 252.235-7011	Final Scientific or Technical Report (NOV 2004)
DFARS 252.243-7002	Requests for Equitable Adjustment (MAR 1998)
DFARS 252.244-7000	Subcontracts for Commercial Items and Commercial Components (DoD Contracts) (JAN 2007)
DFARS 252.245-7001	Reports of Government Property (MAY 1994)
DFARS 252.247-7023	Transportation of Supplies by Sea (MAY 2002)
DFARS 252.251-7000	Ordering from Government Supply Sources (NOV 2004)

(b) ADDITIONAL FAR AND DFARS CLAUSES

This contract incorporates one or more of the following checked 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.

- FAR 52.204-02 Security Requirements (AUG 1996) (Applicable if contract will generate or require access to classified information and DD Form 254, Contract Security Classification Specification, is issued to the Contractor) – include Alternate I (APR 1984) if R&D cost contract with educational institution
- FAR 52.204-09 Personal Identity Verification of Contractor Personnel (NOV 2006) (Applicable if contract performance requires contractors to have routine physical access to a Federally-controlled facility and/or Federally-controlled information system)
- FAR 52.215-14 Integrity of Unit Prices (OCT 1997) and Alternate I (OCT 1997) (Applicable when contracting without adequate price competition)
- FAR 52.215-16 Facilities Capital Cost of Money (June 2003)
- or
- FAR 52.215-17 Waiver of Facilities Capital Cost of Money (OCT 1997) (Applicable if FAR clause 52.215-16 does not apply)
- FAR 52.216-11 Cost Contract—No Fee (APR 1984)
- FAR 52.216-12 Cost-Sharing Contract—No Fee (APR 1984)
- FAR 52.216-26 Payments of Allowable Costs before Definitization (DEC 2002)

- FAR 52.217-05 Evaluation of Options (JUL 1990)
- FAR 52.217-07 Option for Increased Quantity – Separately Priced Line Item (MAR 1989)
- FAR 52.219-09 Small Business Subcontracting Plan (SEP 2006) (Applicable to contract that (i) offers subcontracting possibilities, (ii) is expected to exceed \$550,000, and (iii) is required to include FAR 52.219-8 unless set-aside or 8(a) program. Does not apply to small business concerns)
- FAR 52.219-16 Liquidated Damages - Subcontracting Plan (JAN 1999) (Applicable if contract is subject to FAR 52.219-09)
- FAR 52.222-24 Preaward On-Site Equal Opportunity Compliance Evaluation (FEB 1999) (Applicable if contract includes FAR 52.222-26 and is expected to be \$10 million or more)
- FAR 52.223-05 Pollution Prevention and Right-to-Know Information (AUG 2003) (Applicable where performance will be in whole or in part on Federal facility)
- FAR 52.226-01 Utilization of Indian Organizations and Indian-Owned Economic Enterprises (JUN 2000) (Applicable if FAR 52.219-09 is checked)
- FAR 52.227-10 Filing of Patent Applications - Classified Subject Matter (APR 1984) (Applicable if contract is subject to FAR clauses 52.204-02 and either FAR 52.227-11 or FAR 52.227-12)
- FAR 52.227-11 Patent Rights - Retention by the Contractor (Short Form) (JUN 1997) (Applicable if contractor is a small business or nonprofit organization)

This clause is modified to contain the following subparagraph:

(f)(5) - 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 certifying 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 subject inventions or certifying that there were no such inventions and listing all subcontracts at any tier containing a patent rights clause or certifying that there were no such subcontracts.
- (iii) upon request, the filing date, serial number, title, and a copy of the patent application, and patent number and issue date for any subject invention in any country in which the contractor has applied for patents.
- (iv) an irrevocable power to inspect and make copies of the patent application file covering any subject invention.

or

- FAR 52.227-12 Patent Rights - Retention by the Contractor (Long Form) (JAN 1997) (Applicable if contractor is a large business)
- FAR 52.230-02 Cost Accounting Standards (APR 1998) (Applicable unless contract is exempted (see 48 CFR 9903.201-1 (FAR Appendix)), or contract is subject to modified coverage (see 48 CFR 9903.201-2 (FAR Appendix)))
- FAR 52.230-03 Disclosure and Consistency of Cost Accounting Practices (APR 1998) (Applicable to contract over \$500,000 but less than \$25 million, and offeror certifies eligibility for, and elects to use, modified CAS coverage (see 48 CFR 9903.201-2 (FAR Appendix)))
- FAR 52.230-05 Cost Accounting Standards – Educational Institution (APR 1998)
- FAR 52.230-06 Administration of Cost Accounting Standards (APR 2005) (Applicable to contract which includes FAR 52.230-2, FAR 52.230-3, or FAR 52.230-5)

- FAR 52.232-20 Limitation of Cost (APR 1984) (Applicable only when contract action is fully funded)
- or
- FAR 52.232-22 Limitation of Funds (APR 1984) (Applicable only when contract action is incrementally funded)
- FAR 52.237-02 Protection of Government Buildings, Equipment, and Vegetation (APR 1984)
- FAR 52.237-10 Identification of Uncompensated Overtime (OCT 1997)
- FAR 52.239-01 Privacy or Security Safeguards (AUG 1996)
- FAR 52.242-03 Penalties for Unallowable Costs (MAY 2001)
- FAR 52.245-18 Special Test Equipment (FEB 1993)
- FAR 52.246-08 Inspection of Research and Development—Cost-Reimbursement (MAY 2001)
(Applicable when primary objective is the delivery of end items other than designs, reports) (If checked, FAR 52.246-09 is not applicable) drawings, or
- FAR 52.246-08 Inspection of Research and Development—Cost-Reimbursement (MAY 2001) and Alternate I (APR 1984) (Applicable when primary objective is the delivery of end items designs, drawings, or reports and contract awarded on a no-fee basis) (If checked, FAR 52.246-09 is not applicable) other than
- FAR 52.246-11 Higher-Level Contract Quality Requirement (FEB 1999) (Applicable to contract when the inclusion of a higher-level contract quality requirement is appropriate (see 46.202-4))
- DFARS 252.203-7002 Display of DoD Hotline Poster (DEC 1991) (Applicable to contract exceeding \$5,000,000 except when performance will take place in a foreign country)
- DFARS 252.204-7000 Disclosure of Information (DEC 1991) (Applicable to unclassified contract)
- DFARS 252.204-7005 Oral Attestation of Security Responsibilities (NOV 2001) (Applicable if contract will generate or require access to classified information and DD Form 254, Contract Security Classification Specification, is issued to the Contractor)
- DFARS 252.205-7000 Provision of Information to Cooperative Agreement Holders (DEC 1991)
(Applicable to contract expected to exceed \$1,000,000)
- DFARS 252.209-7002 Disclosure of Ownership or Control by a Foreign Government (JUN 2005)
- DFARS 252.209-7004 Subcontracting with Firms that are Owned or Controlled by the Government of a Terrorist Country (DEC 2006) (Applicable to contract with a value of \$100,000 or more)
- DFARS 252.211-7003 Item Identification and Valuation (JUN 2005) (Applicable to contract requiring the delivery of one or more "items," defined as a single hardware article or unit formed by a grouping of subassemblies, components, or constituent parts)
- DFARS 252.215-7002 Cost Estimating System Requirements (DEC 2006) (Applicable to contract awarded on basis of certified cost or pricing data)
- DFARS 252.219-7003 Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (DoD Contracts) (APR 1996) (Applicable if FAR 52.219-9 is checked)
- DFARS 252.222-7001 Right of First Refusal of Employment – Closure of Military Installations (APR 1993)

- DFARS 252.223-7006 Prohibition on Storage and Disposal of Toxic and Hazardous Materials (APR 1993) (Applicable to contract which requires, may require, or permit contractor performance on a DoD installation)
- DFARS 252.225-7001 Buy American Act and Balance of Payments Program (JUN 2005) (Applicable to contract for supplies or services that requires the furnishing of supplies)
- DFARS 252.225-7002 Qualifying Country Sources as Subcontractors (APR 2003) (Applicable if DFARS 252.225-7001 is checked)
- DFARS 252.225-7004 Report of Intended Performance Outside the United States and Canada – Submission after Award (DEC 2006) (Applicable if contract value >\$11,500,000)
- DFARS 252.225-7006 Quarterly Reporting of Actual Contract Performance Outside the United States (DEC 2006) (Applicable if contract value >\$550,000)
- DFARS 252.225-7016 Restriction on Acquisition of Ball and Roller Bearings (MAR 2006) (Applicable to contract unless (a) the restrictions in 225.7019-1 do not apply or a waiver has been granted; or (b) where the Contracting Officer knows the items being acquired do not contain ball or bearings)
- DFARS 252.225-7025 Restriction on Acquisition of Forgings (JUL 2006) (Applicable to contract unless (a) excepted in 225.7102-2; or (b) where the Contracting Officer knows that the supplies being acquired do not contain forgings)
- DFARS 252.225-7026 Reserved.
- DFARS 252.225-7041 Correspondence in English (JUN 1997) (Applicable when contract performance will be wholly or in part in a foreign country)
- DFARS 252.225-7042 Authorization to Perform (APR 2003) (Applicable when contract performance will be wholly or in part in a foreign country)
- DFARS 252.225-7043 Antiterrorism/Force Protection Policy for Defense Contractors Outside the United States (MAR 2006) (Applicable to contract that requires performance or travel outside the United States except for contracts with foreign governments, representatives of a foreign government or foreign corporations wholly owned by foreign governments)
- DFARS 252.226-7001 Utilization of Indian Organizations, Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns (SEP 2004) (Applicable for supplies and services >\$500,000 where subcontracting opportunities may exist)
- DFARS 252.227-7015 Technical Data—Commercial Items (NOV 1995) (Applicable when Contractor will be required to deliver technical data pertaining to commercial items, components, or processes)
- DFARS 252.227-7018 Rights in Noncommercial Technical Data and Computer Software – Small Business Innovation Research (SBIR) Program (JUN 1995)
- DFARS 252.227-7025 Limitations on the Use or Disclosure of Government Furnished Information Marked with Restrictive Legends (JUN 1995)
- DFARS 252.227-7028 Technical Data or Computer Software Previously Delivered to the Government (JUN 1995)
- DFARS 252.227-7034 Patents - Subcontracts (APR 1984) (Applicable if FAR 52.227-11 is checked)
- DFARS 252.227-7039 Patents - Reporting of Subject Inventions (APR 1990) (Applicable if FAR 52.227-11 is checked)

- DFARS 252.242-7004 Material Management and Accounting System (NOV 2005)(Not applicable to cost-reimbursement contracts with small businesses, educational institutions, or nonprofit organizations)
- DFARS 252.246-7000 Material Inspection and Receiving Report (MAR 2003) (Applicable when there will be separate and distinct deliverables unless not required under DFARS 246.370(b))
- DFARS 252.247-7024 Notification of Transportation of Supplies by Sea (MAR 2000) (Applicable only if Contractor has represented that it will not use ocean transportation)

(c) The following attached clauses are also applicable to this contract. Expedited implementation of these clauses has been authorized by the Defense Acquisition Regulatory Council. The clauses and their prescriptions for use will be published in forthcoming Federal/Defense Acquisition Circulars:

(d) The following attached clauses, set out in full text, are also applicable to this contract:

1. FAR 52.215-19 Notification of Ownership Changes (OCT 1997) (Applicable if cost or pricing data is required or if any preaward or postaward cost determination will be subject to Subpart 31.2)

(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;

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

(c) 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).

2. FAR 52.222-39 Notification of Employee Rights Concerning Payment of Union Dues or Fees (DEC 2004)

(a) *Definition.* As used in this clause-

"United States" means the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.

(b) Except as provided in paragraph (e) of this clause, during the term of this contract, the Contractor shall post a notice, in the form of a poster, informing employees of their rights concerning union membership and payment of union dues and fees, in conspicuous places in and about all its plants and offices, including all places where notices to employees are customarily posted. The notice shall include the following information (except that the information pertaining to National Labor Relations Board shall not be included in notices posted in the plants or offices of carriers subject to the Railway Labor Act, as amended (45 U.S.C. 151-188)).

Notice to Employees

Under Federal law, employees cannot be required to join a union or maintain membership in a union in order to retain their jobs. Under certain conditions, the law permits a union and an employer to enter into a union-security agreement requiring employees to pay uniform periodic dues and initiation fees. However, employees who are not union members can object to the use of their payments for certain purposes and can only be required to pay their share of union costs relating to collective bargaining, contract administration, and grievance adjustment.

If you do not want to pay that portion of dues or fees used to support activities not related to collective bargaining, contract administration, or grievance adjustment, you are entitled to an appropriate reduction in your payment. If you believe that you have been required to pay dues or fees used in part to support activities not related to collective bargaining, contract administration, or grievance adjustment, you may be entitled to a refund and to an appropriate reduction in future payments.

For further information concerning your rights, you may wish to contact the National Labor Relations Board (NLRB) either at one of its Regional offices or at the following address or toll free number:

National	Labor	Relations	Board
Division	of		Information
1099	14th	Street,	N.W.
Washington,		DC	20570
1-866-667-6572			
1-866-316-6572 (TTY)			

To locate the nearest NLRB office, see NLRB's website at <http://www.nlr.gov>.

(c) The Contractor shall comply with all provisions of Executive Order 13201 of February 17, 2001, and related implementing regulations at 29 CFR part 470, and orders of the Secretary of Labor.

(d) In the event that the Contractor does not comply with any of the requirements set forth in paragraphs (b), (c), or (g), the Secretary may direct that this contract be cancelled, terminated, or suspended in whole or in part, and declare the Contractor ineligible for further Government contracts in accordance with procedures at 29 CFR part 470, Subpart B-Compliance Evaluations, Complaint Investigations and Enforcement Procedures. Such other sanctions or remedies may be imposed as are provided by 29 CFR part 470, which implements Executive Order 13201, or as are otherwise provided by law.

(e) The requirement to post the employee notice in paragraph (b) does not apply to-

- (1) Contractors and subcontractors that employ fewer than 15 persons;
- (2) Contractor establishments or construction work sites where no union has been formally recognized by the Contractor or certified as the exclusive bargaining representative of the Contractor's employees;
- (3) Contractor establishments or construction work sites located in a jurisdiction named in the definition of the United States in which the law of that jurisdiction forbids enforcement of union-security agreements;
- (4) Contractor facilities where upon the written request of the Contractor, the Department of Labor Deputy Assistant Secretary for Labor-Management Programs has waived the posting requirements with respect to any of the Contractor's facilities if the Deputy Assistant Secretary finds that the Contractor has demonstrated that-
 - (i) The facility is in all respects separate and distinct from activities of the Contractor related to the performance of a contract; and
 - (ii) Such a waiver will not interfere with or impede the effectuation of the Executive order; or
- (5) Work outside the United States that does not involve the recruitment or employment of workers within the United States.

(f) The Department of Labor publishes the official employee notice in two variations; one for contractors covered by the Railway Labor Act and a second for all other contractors. The Contractor shall-

(1) Obtain the required employee notice poster from the Division of Interpretations and Standards, Office of Labor-Management Standards, U.S. Department of Labor, 200 Constitution Avenue, NW, Room N-5605, Washington, DC 20210, or from any field office of the Department's Office of Labor-Management Standards or Office of Federal Contract Compliance Programs;

(2) Download a copy of the poster from the Office of Labor-Management Standards website at <http://www.olms.dol.gov>; or

(3) Reproduce and use exact duplicate copies of the Department of Labor's official poster.

(g) The Contractor shall include the substance of this clause in every subcontract or purchase order that exceeds the simplified acquisition threshold, entered into in connection with this contract, unless exempted by the Department of Labor Deputy Assistant Secretary for Labor-Management Programs on account of special circumstances in the national interest under authority of 29 CFR 470.3(c). For indefinite quantity subcontracts, the Contractor shall include the substance of this clause if the value of orders in any calendar year of the subcontract is expected to exceed the simplified acquisition threshold. Pursuant to 29 CFR part 470, Subpart B-Compliance Evaluations, Complaint Investigations and Enforcement Procedures, the Secretary of Labor may direct the Contractor to take such action in the enforcement of these regulations, including the imposition of sanctions for noncompliance with respect to any such subcontract or purchase order. If the Contractor becomes involved in litigation with a subcontractor or vendor, or is threatened with such involvement, as a result of such direction, the Contractor may request the United States, through the Secretary of Labor, to enter into such litigation to protect the interests of the United States.

3. 52.247-67 Submission of Transportation Documents for Audit (FEB 2006)

(a) The Contractor shall submit to the address identified below, for prepayment audit, transportation documents on which the United States will assume freight charges that were paid--

(1) By the Contractor under a cost-reimbursement contract; and

(2) By a first-tier subcontractor under a cost-reimbursement subcontract thereunder.

(b) Cost-reimbursement Contractors shall only submit for audit those bills of lading with freight shipment charges exceeding \$100. Bills under \$100 shall be retained on-site by the Contractor and made available for on-site audits. This exception only applies to freight shipment bills and is not intended to apply to bills and invoices for any other transportation services.

(c) Contractors shall submit the above referenced transportation documents to--

[To be filled in by Contracting Officer]

4. FAR 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 N/A (48 CFR N/A) clause with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

Section J List of Attachments

Attachment 1 – Precontract Cost Agreement (2 pages)

Section K Representations, Certifications, and other Statements by Offerors or Quoters

THE SECTION K REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS, AS COMPLETED BY THE CONTRACTOR AND MAINTAINED IN ORCA OR RETAINED IN THE CONTRACT FILE, ARE HEREBY INCORPORATED BY REFERENCE.

[NOTE: In order to reconcile PD2 pagination requirements, this page is designated 23-37]



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

Attachment 1

ADVANCE AGREEMENT TO AUTHORIZE INCURRENCE OF PRECONTRACT COSTS
UNDER CONTRACT NO. HR0011-07-C-0060

The DARPA Contracts Management Office has received a valid and properly funded requirement (PG W800) for Phase 1 of "PLATO: Phased Learning through Analyzing Teaching and Observation" in support of DARPA/IPTO's Bootstrapped Learning Program.

Since the Contracting Officer has determined that incurrence of costs prior to the effective date of subject contract is necessary to ensure compliance with the proposed contract delivery schedule, the Government and the Contractor, pursuant to the requirements of FAR 31.109 and 10 USC 2326, agree as follows:

FIRST: In the event that a contract is awarded, precontract costs, not to exceed \$2,016,848, shall be an allowable expense, provided that the individual costs therein shall be --

- (a) otherwise allowable, reasonable and allocable,
- (b) incurred no sooner than April 16, 2007, or after July 15, 2007, and
- (c) incurred specifically for --
 - (i) Technology transition from seedling to performers;
 - (ii) Kickoff meeting preparation;
 - (iii) Travel costs for pre-kickoff meeting coordination.

SECOND: Contractual terms, specifications and price shall be agreed to by the earlier of --

- (a) the end of the 180-day period beginning on the date on which the Contractor submits a qualifying proposal to definitize the contractual terms, specifications and price; or
- (b) the date on which the amount of funds obligated or expended under this advance agreement is equal to more than 50% of the negotiated overall ceiling price for this advance agreement.

THIRD AND LAST: It is the intention of the Government to award subject contract to SRI subject to final agreement as to contractual terms, specifications and price, and to incorporate this agreement therein. It is understood and agreed by both parties that this agreement deals with the treatment of precontract costs in the event of contract award. This agreement does not require the Contractor to incur such costs and any costs incurred are at the risk of the proposed Contractor pending execution of a definitive contract.

For SRI International:

April 16, 2007

DATE

(b)(6)

SRI International
Contracts Manager

For the Government:

APR 16 2007

DATE

(b)(6)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				I. CONTRACT ID CODE	PAGE OF PAGES
				U	1 2
2. AMENDMENT/MODIFICATION NO. P00001		3. EFFECTIVE DATE 19 NOV 2007	4. REQUISITION/PURCHASE REQ. NO. SEE SCHEDULE		5. PROJECT NO. (If applicable)
6. ISSUED BY DARPA CNO ATTN: DOUGLAS M. POLLOCK 3701 NORTH FAIRFAX DRIVE ARLINGTON VA 22203-1714		CODE HF0011	7. ADMINISTERED BY (If other than item 6) DCMA NORTHERN CALIFORNIA 700 EAST ROTH ROAD BLDG 330 FRENCH CAMP CA 95231-0232		CODE S0507A
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code) SHI INTERNATIONAL 333 RAVENSWOOD AVENUE MENLO PARK CA 94025				9A. AMENDMENT OF SOLICITATION NO.	
				9B. DATED (SEE ITEM 11)	
				X 10A. MOD. OF CONTRACT/ORDER NO. HF0011-07-C-0060	
				X 10B. DATED (SEE ITEM 13) 27-Jun-2007	
CODE 03652		FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended.					
<p>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:</p> <p>(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.</p>					
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).					
X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: FAR 52.232-22 and mutual agreement of parties					
D. OTHER (Specify type of modification and authority)					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> 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: jwuest08114 See Schedule					
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)		
[Redacted]			DOUGLAS M. POLLOCK/PCO douglas.pollock@darpa.mil TEL: 703-696-2436		
15B. [Redacted]		15C. DATE SIGNED 11/16/07	16B. UNITED STATES OF AMERICA BY: <i>Douglas M. Pollock</i> (Signature of Contracting Officer)		16C. DATE SIGNED 19 NOV 2007
(Signature of person authorized to sign)					

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SF 30 BLOCK 14 CONTINUATION SHEET

SUMMARY OF CHANGES

FIRST: Additional funding in the amount of \$4,562,482 is hereby made available under the accounting and appropriation data set forth below to complete funding of CLINs 0001 and 0002, totaling \$9,940,742.

SECOND: Section B is amended to include additional funding of \$4,562,482 for the basic contract effort on 000102, ACRN AA (Purchase Request No. W800/02).

THIRD: The term of contract set forth in Article F-1 is extended through 31 OCT 2008.

FOURTH: The due dates for all of the Final Technical Reports listed in Article F-2 are extended through 31 OCT 2008 (000203), 2009 (000403), and 2010 (000603).

FIFTH: Section G is amended to include an increase to ACRN AA, as follows:

ACRN: AA 9770400 1320 W800 P7520 2525 DPAC 7 5223 S12136 62304E
\$4,562,482 INCREASE

SIXTH: Article G-6 is changed to read as follows:

G-6 Summary for the Payment Office

- (a) Amount of funds obligated by prior contract actions: \$5,378,260
- (b) Amount of funds obligated by the instant modification: \$4,562,482
- (c) Total cumulative amount of obligated funds: \$9,940,742

SEVENTH AND LAST: Section H is amended to reserve Article H-12, Incremental Funding.