

AWARD/CONTRACT		1. This Contract Is A Rated Order Under DPAS (15 CFR 700)	Rating DOA4	Page 1	Of 36	Pages
2. Contract (Proc. Inst. Ident.) No. W56HZV-14-C-0116		3. Effective Date 2014APR29	4. Requisition/Purchase Request/Project No. SEE SCHEDULE			
5. Issued By U.S. ARMY CONTRACTING COMMAND PATRICIA ROUSSIN WARREN, MICHIGAN 48397-5000 HTTP://CONTRACTING.TACOM.ARMY.MIL		Code W56HZV	6. Administered By (If Other Than Item 5) DCMA SANTA ANA 34 CIVIC CENTER PLAZA ROOM 5001 SANTA ANA, CA 92701-4056		Code S0513A	

e-mail address: PATRICIA.M.ROUSSIN@US.ARMY.MIL

7. Name And Address Of Contractor (No., Street, City, County, State and Zip Code) PHYSICAL OPTICS CORPORATION 1845 WEST 205TH STREET TORRANCE, CA 90501-1821		8. Delivery <input type="checkbox"/> FOB Origin <input checked="" type="checkbox"/> Other (See Below)	
		9. Discount For Prompt Payment	
Code OAZ36		10. Submit Invoices (4 Copies Unless Otherwise Specified)	
Facility Code		Item 12	
		To The Address Shown In:	

11. Ship To/Mark For SEE SCHEDULE	Code	12. Payment Will Be Made By DFAS-COLUMBUS CENTER DFAS-CO WEST ENTITLEMENT OPERATIONS P.O. BOX 182381 COLUMBUS, OH 43218-2381	Code HQ0339
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13. Authority For Using Other Than Full And Open Competition: <input type="checkbox"/> 10 U.S.C. 2304(c) () <input type="checkbox"/> 41 U.S.C. 253(c) ()		14. Accounting And Appropriation Data SEE SECTION G			
15A. Item No.	15B. Supplies/Services	15C. Quantity	15D. Unit	15E. Unit Price	15F. Amount
SEE SCHEDULE					
15G. Total Amount Of Contract →					\$499,916.12

16. Table Of Contents							
(X)	Sec.	Description	Page(s)	(X)	Sec.	Description	Page(s)
Part I - The Schedule				Part II - Contract Clauses			
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X	C	Description/Specs./Work Statement	7	X	J	List of Attachments	36
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X	E	Inspection and Acceptance	11		K	Representations, Certifications, and Other Statements of Offerors	
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X	H	Special Contract Requirements	17				

Contracting Officer Will Complete Item 17 (Sealed-Bid or Negotiated Procurement) Or 18 (Sealed-Bid Procurement) As Applicable

17. <input checked="" type="checkbox"/> Contractor's Negotiated Agreement (Contractor is required to sign this document and return 2 signed 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. <input type="checkbox"/> Sealed-Bid Award (Contractor is not required to sign this document.) Your bid 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 bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)
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19A. Name And Title Of Signer (Type Or Print)	20A. Name Of Contracting Officer LYNN M. BYRNE LYNN.M.BYRNE@US.ARMY.MIL (586)282-6553
19B. Name of Contractor	20B. United States Of America
19c. Date Signed	20C. Date Signed 2014APR29
By _____ (Signature of person authorized to sign)	By _____ /SIGNED/ (Signature of Contracting Officer)

CONTINUATION SHEET**Reference No. of Document Being Continued****Page 2 of 36****PIIN/SIIN** W56HZV-14-C-0116**MOD/AMD****Name of Offeror or Contractor:** PHYSICAL OPTICS CORPORATION

SECTION A - SUPPLEMENTAL INFORMATION

Buyer Name: PATRICIA ROUSSIN
Buyer Office Symbol/Telephone Number: CCTA-ASG-C/(586)282-9610
Type of Contract: Cost Plus Fixed Fee
Kind of Contract: Research and Development Contracts
Type of Business: Other Small Business Performing in U.S.
Surveillance Criticality Designator: C
Weapon System: No Identified Army Weapons Systems

*** End of Narrative A0000 ***

<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
A-1 52.201-4000	ARMY CONTRACTING COMMAND-WARREN (DTA) OMBUDSPERSON	APR/2011

Information regarding the Ombudsperson for this contract is located at the following website:
<http://contracting.tacom.army.mil/acqinfo/ombudsperson.htm>

[End of Provision]

CONTINUATION SHEET

Reference No. of Document Being Continued
 PIIN/SIIN W56HZV-14-C-0116 MOD/AMD

Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT															
0001	SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS SBIR PH II- POC The contractor shall furnish all the supplies and services to accomplish the tasks specified in Section C - Description/Specification/Work Statement. Est. Cost: \$939,122.56 Fixed Fee: \$60,772.05 Total Amount: \$999,894.61 (End of narrative B001)																			
0001AA	<u>SERVICES LINE ITEM</u> SERVICE REQUESTED: SBIR PH II- POC CLIN CONTRACT TYPE: Cost Plus Fixed Fee PRON: R33SB063R3 PRON AMD: 01 ACRN: AA <u>Inspection and Acceptance</u> INSPECTION: Destination ACCEPTANCE: Destination <u>Deliveries or Performance</u> DLVR SCH PERF COMPL <table border="0" data-bbox="267 1291 771 1344"> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> <td><u>DATE</u></td> </tr> <tr> <td>001</td> <td>1</td> <td>15-APR-2015</td> </tr> </table> <p style="text-align: right;">\$ 499,916.12</p>	<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>	001	1	15-APR-2015	1	LO	Estimated Cost Fixed Fee Not to Exceed (Funding)	<table border="0"> <tr> <td></td> <td style="text-align: right;">\$</td> <td style="text-align: right;"><u>469,532.00</u></td> </tr> <tr> <td></td> <td style="text-align: right;">\$</td> <td style="text-align: right;"><u>30,384.12</u></td> </tr> <tr> <td></td> <td style="text-align: right;">\$</td> <td style="text-align: right;"><u>499,916.12</u></td> </tr> </table>		\$	<u>469,532.00</u>		\$	<u>30,384.12</u>		\$	<u>499,916.12</u>
<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>																		
001	1	15-APR-2015																		
	\$	<u>469,532.00</u>																		
	\$	<u>30,384.12</u>																		
	\$	<u>499,916.12</u>																		
0002	<u>DATA ITEM: CDRL (DD FORM) EXHIBIT A</u> SERVICE REQUESTED: CDRL (DD FORM 1423) EXHIBIT A CLIN CONTRACT TYPE: No Cost * NOT SEPARATELY PRICED * Technical Data as set forth in Contract Data Requirements List (CDRL) DD Form 1423, herein after referred to as Exhibit A. (End of narrative B001)	1	LO																	

CONTINUATION SHEET

Reference No. of Document Being Continued
 PIIN/SIIN W56HZV-14-C-0116 MOD/AMD

Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT									
	<p>form can be obtained at:</p> <p>http://www.dtic.mil/whs/directives/infomgt/forms/eforms/dd0882.pdf</p> <p>(End of narrative B001)</p> <p><u>Inspection and Acceptance</u> INSPECTION: Destination ACCEPTANCE: Destination</p> <p><u>Deliveries or Performance</u></p> <table border="0"> <tr> <td>DLVR SCH</td> <td></td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> <td><u>DATE</u></td> </tr> <tr> <td>001</td> <td>1</td> <td>AS REQUIRED</td> </tr> </table>	DLVR SCH		PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>	001	1	AS REQUIRED				
DLVR SCH		PERF COMPL												
<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>												
001	1	AS REQUIRED												

Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

B.1 ESTIMATED COST & PAYMENT

B.1.1 The estimated cost for performance of the work required under this contract is stated in Section B under CLIN 0001, which shall constitute the estimated cost for the purpose of the Contract Clause entitled LIMITATION OF FUNDS, FAR 52.232-22.

Est. Cost: \$469,532.00
Fixed Fee: \$ 30,384.12
Total Amount: \$499,916.12

B.1.2 The contractor will be paid for the fixed fee stated in Section B under CLIN 0001 for the performance of work under the contract and in accordance with the terms of the Contract Clause entitled FIXED FEE, FAR 52.216-8. The fixed fee together with the reimbursement of cost shall constitute full and complete consideration for the contractor's service in connection with the work required and performed under this contract.

B.1.3 Allowable cost shall be determined, and payment thereof shall be provided, in accordance with the Contract Clause entitled ALLOWABLE COST AND PAYMENT, FAR 52.216-7.

B.1.4 The contractor may submit public vouchers for payment under this contract in accordance with the Contract Clause hereof entitled ALLOWABLE COST AND PAYMENT, FAR 52.216-7.

B.1.5 The fee will be payable at the time of reimbursement of cost in the same proportion to such cost as the total fee of this contract bears to the total estimated cost thereof, subject to any withholding pursuant to provisions of this contract.

B.2 FUNDING

B.2.1. The Government will provide funds under this contract covering the estimated cost and fee on an incremental basis, as provided for in the funding schedule below and pursuant to the following Contract Clauses:

- LIMITATION OF FUNDS, FAR 52.232-22
- LIMITATION OF GOVERNMENTS OBLIGATION, DFARS 252.232-7007

It is estimated that the incremental amounts are sufficient for the performance of work in each of the cited periods. The Government may, at its discretion, allot such funds on an incremental basis within each fiscal year. The contractor shall so plan and execute the work required by this contract as to expend and commit funds compatible with the schedule set forth below. Whenever the contractor has reason to believe that the funds allotted to this contract for any fiscal year are either insufficient or excessive for the performance of work required in that fiscal year, the Government shall be so notified.

B.2.2 Funding Schedule:

<u>Performance Period</u>	<u>Amount</u>
Date of contract award through twelve (12) months after date of contract award	\$499,916.12
Twelve (12) months and one (1) day after date of contract award through completion	<u>\$499,978.49</u>
Total	\$999,894.61

B.3 Funds Allotted: The amount of funds currently allotted to this contract is \$499,916.12.

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Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
C-1	52.204-4003 (TACOM)	START OF WORK MEETING	SEP/2013

The contractor shall hold a start of work meeting at its facility, unless some other location is designated in the contract, within 30 days after contract award. The Start of Work Meeting is to assure a clear and mutual understanding of the contract terms, conditions, line items, technical requirements and sequence of events needed for successful execution of the subject contract effort. The contractor shall participate with Government to arrange a schedule and agenda for the meeting.

The contractor shall at a minimum invite the Government contracting personnel (PCO/Contract Specialist). At the discretion of the PCO, other Government technical personnel (Contracting Officer's Representative (COR) identified in Section G or in an appointment letter, Quality Assurance personnel, DCMA, etc.) may also be invited to the meeting. All Government invitees shall be given at least 14 days advance notice of the time, date, and location of the start of work meeting. The preferred method of notification is by email. The contractor shall provide the Government with minutes of the Start of Work Meeting within 7 days after the meeting is held.

[End of Clause]

C-2	52.237-4000 (TACOM)	CONTRACTOR MANPOWER REPORTING (CMR)	FEB/2013
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The Office of the Assistant Secretary of the Army (Manpower & Reserve Affairs) operates and maintains a secure Army data collection site where the contractor will report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract via secure data collection site. The contractor is required to completely fill in all required data fields in the format using the following web address: <https://cmra.army.mil>. The required information includes the following:

- (1) Contracting Office, Contracting Officer, Contracting Officer's Technical Representative;
- (2) Contract number, including task and delivery order number;
- (3) Beginning and ending dates covered by reporting period;
- (4) Contractor name, address, phone number, e-mail address, identity of contractor employee entering data;
- (5) Direct labor hours (including sub-contractors);
- (6) Direct labor dollars paid this reporting period (including sub-contractors);
- (7) Total payments (including sub-contractors);
- (8) Predominant Federal Service Code (FSC) reflecting services provided by contractor (and separate predominant FSC for each sub-contractor if different);
- (9) Data collection cost;
- (10) Organizational title associated with the Unit Identification Code (UIC) for the Army Requiring Activity (the Army Requiring Activity is responsible for providing the contractor with its UIC for the purposes of reporting this information);
- (11) Locations where contractor and sub-contractors perform the work (specified by zip code in the United States and nearest city, country, when in an overseas location, using standardized nomenclature provided on website);
- (12) Presence of deployment or contingency contract language; and
- (13) Number of contractor and sub-contractor employees deployed in theater this reporting period (by country).

Reporting inputs will be for the labor executed during the period of performance during each Government fiscal year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year, beginning with 2013. Contractors may direct questions to the help desk at : <https://cmra.army.mil>.

[End of Clause]

C.1 STATEMENT OF WORK

C.1.1 The Contractor, acting as an independent contractor and not as an agent of the Government, shall provide the necessary personnel,

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Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION		

facilities, materials, and services to complete the efforts described in this SBIR Phase II Statement of Work.

C.2 Research and Development Requirements

C.2.1 The Contractor shall research, develop, and deliver a prototype hardware and software system that provides a bidirectional optical communication channel between two equivalent terminals. The prototype system shall have the following characteristics and performance capabilities:

- a) Size, Weight, Power: Each terminal shall have outer diameter no greater than 20 centimeters (cm), weigh less than 2 kilograms (Kg), and consume less than 15 watts (W) of power operating from a 24-volts direct current (VDC) source.
- b) Bi-directional Data: The system shall provide bidirectional communication, i.e. the terminals shall function simultaneously as a receiver and as a transmitter.
- c) Omni-directional Coverage: The system shall have a horizontal field of view of 360 degrees and a vertical field of view of 24 degrees or greater centered about horizontal.
- d) Range: The system shall have a line of sight communication range of 200 meters or greater.
- e) Data Interface: The terminals shall use the Ethernet protocol for data transfer.
- f) Bandwidth: The system shall have a data bandwidth of 100 megabits per second (Mbps) (threshold) or 200 Mbps (objective) or greater.
- g) Latency: The system shall have a terminal to terminal communication latency of 50 milliseconds (ms) or less.
- h) Eye Safe: The system shall conform to laser safety standard Class 1M, no hazard during normal use.
- i) Non-Line-of-Sight: The system shall maintain a communication channel in non-line-of-sight situations. The data bandwidth shall be 10 Mbps or greater when the signal is reflected off three (3) surfaces, each with an average reflectivity of fifty percent (50%) over a path length of 100 meters or greater.
- j) Point-to-Point Demonstration: The system shall be installed on an unmanned ground vehicle (UGV) and its associated operator control unit (OCU). Teleoperation of the UGV shall be demonstrated with performance characteristics as specified in paragraphs C.2.1.a through C.2.1.i above.
- k) Vehicle-to-Vehicle Demonstration: The system shall be installed on two (2) vehicles, and video and control data communication shall be demonstrated while traveling on public roads and highways, with performance characteristics as specified in paragraphs C.2.1.a through C.2.1.i above.

C.3 Meetings

C.3.1 Kick-off Meeting

C.3.1.1 The Contractor shall plan and conduct a one (1) day kick-off meeting to be held at TARDEC within thirty (30) days after contract award. The presentation material from the kickoff meeting shall be provided with the first progress report (see C.4.1).

C.3.1.2 The Contractor shall contact the COR a minimum of two (2) weeks in advance to coordinate the meeting. The Contractor shall also invite the Procuring Contracting Officer (PCO) and the Contract Specialist listed on page one (1) of the contract and the Administrative Contracting Officer (ACO) listed in Section G of the contract. At the meeting, the contractor shall explain their intended approach for accomplishing the contract statement-of-work (SOW).

C.3.2 Interim Progress Review

C.3.2.1 The Contractor shall plan and conduct one (1) interim progress review (IPR) meeting, which shall be held at TARDEC twelve (12) months after contract award. In the event that circumstances warrant, the COR and the Contractor may agree to an alternate location or to a teleconference. At the meeting, the Contractor shall describe their progress to date on the contract SOW and their plans for completing the contract SOW. The presentation material from the IPR shall be provided with the next progress report (see C.4.1).

C.3.2.2 The Contractor shall contact the COR a minimum of two (2) weeks in advance to coordinate the meeting. At a minimum, the Contractor shall also invite the Procuring Contracting Officer (PCO) and the Contract Specialist listed on page one (1) of the contract, and the Administrative Contracting Officer (ACO) listed in Section G of the contract.

C.3.3 Final Meeting and Demonstration

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Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

C.3.3.1 The Contractor shall plan and conduct the final meeting which shall be held at TARDEC to include a software/hardware demonstration. The demonstration shall show that the system is capable of all performance specifications described in Section C.2. The presentation material from the final meeting shall be provided with the final report (see C.4.1).

C.3.3.2 The Contractor shall contact the COR a minimum of two (2) weeks in advance to coordinate the meeting. At a minimum, the Contractor shall also invite the Procuring Contracting Officer (PCO) and the Contract Specialist listed on page one (1) of the contract, and the Administrative Contracting Officer (ACO) listed in Section G of the contract.

C.4 Deliverables

C.4.1 The Contractor shall submit progress reports every two (2) months in accordance with CDRL item A001. The first progress report is due sixty (60) days after contract award.

C.4.2 The Contractor shall prepare and submit a draft and final technical report in accordance with CDRL item A002 addressing all of the technical information concerning the optical communication system described in Section C.2. The report shall include the results of all tests performed on the system, technical specifications, interfaces, diagrams of all components of the system, and instructions describing the operation of all delivered software and hardware. The Contractor shall submit the draft technical report twenty-three (23) months after contract award. The COR shall review the draft report and return it to the Contractor with comments within fourteen (14) days of receipt. The Contractor shall deliver the final technical report fourteen (14) days after receipt of draft comments.

C.4.3 At the end of the contract, the Contractor shall deliver to the COR the prototype system, both hardware and software, as described in Section C.2. The delivered system shall be capable of all functions that are described in Section C.2.

C.4.4 The Contractor shall deliver a draft and final SBIR Phase II Research and Development (R&D) Project Summary in accordance with CDRL Data Item A003. The Contractor shall reference the tailored DID DI-MISC-81612A.

C.5 Manpower Reporting

C.5.1 The contractor shall report all contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract for the U.S. Army via a secure data collection site. The contractor is required to completely fill in all required data fields using the Army CMR site, which you can access by clicking on the "Department of Army CMRA" link from the following gateway web address: <http://www.ecmra.mil/>

C.5.2 Reporting inputs will be for the labor executed during the period of performance during each Government fiscal year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year, beginning with 2013. Contractors may direct questions to the Army CMR help desk, which can be contacted using the "Send an email" link on the right side of the sign-in screen at the Army CMR site.

C.5.3 Additional information can be found in the clause in this contract entitled CONTRACTOR MANPOWER REPORTING (52.237-4000).

*** END OF NARRATIVE C0001 ***

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MOD/AMD

Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

SECTION D - PACKAGING AND MARKING

<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
D-1 52.247-4016 (TACOM)	HEAT TREATMENT AND MARKING OF WOOD PACKAGING MATERIALS	AUG/2005

Boxes/pallets and any wood used as inner packaging made of non-manufactured wood shall be heat-treated. All non-manufactured wood used in packaging shall be heat treated to a core temperature of 56 degrees Celsius for a minimum of 30 minutes. The box/pallet manufacturer and the manufacturer of wood used as inner packaging shall be affiliated with an inspection agency accredited by the board of review of the American Lumber Standard Committee. The box/pallet manufacturer and the manufacturer of wood used as inner packaging shall ensure traceability to the original source of heat treatment.

Marking. Each box/pallet shall be marked to show the conformance to the International Plant Protection Convention Standard. The quality mark shall be placed on both ends of the outer packaging, between the end cleats or end battens; on two sides of the pallet. Foreign manufacturers shall have the heat treatment of non-manufactured wood products verified in accordance with their National Plant Protection Organization's compliance program. In addition, wood used as dunnage for blocking and bracing shall be ordered with ALSC certified marking for dunnage or the markings may be applied locally at two foot intervals.

[End of Clause]

D.1 PACKAGING & PACKING

D.1.1 The contractor shall package and pack all items deliverable under this contract in accordance with standard commercial practice to ensure arrival at destination without damage or loss.

D.2 MARKING

D.2.1 Technical Data Marking: The contractor shall ensure that all technical data, deliverable under this contract, is identified by (1) CONTRACT NUMBER; (2) CONTRACTOR NAME AND ADDRESS; and, where applicable (3) THE NAME AND ADDRESS OF THE SUBCONTRACTOR WHO GENERATED THE DATA.

D.2.2 Materials and Hardware Marking: The contractor shall mark or tag all materials and hardware required to be delivered (if any) under this contract with the following information:

1. TACOM CONTRACT NUMBER
2. CONTRACTOR'S NAME
3. CONTRACTOR'S ADDRESS
4. A DESCRIPTION OF MATERIAL/HARDWARE:

*** END OF NARRATIVE D0001 ***

Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

SECTION E - INSPECTION AND ACCEPTANCE

This document 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 these addresses:

<http://farsite.hill.af.mil/VFFARA.HTM> or <http://farsite.hill.af.mil/VDFDARA.HTM> or <http://farsite.hill.af.mil/VFAFARA.HTM>

If the clause requires additional or unique information, then that information is provided immediately after the clause title.

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
E-1	52.246-9	INSPECTION OF RESEARCH AND DEVELOPMENT (SHORT FORM)	APR/1984
E-2	(52.246-4009) (TACOM)	INSPECTION AND ACCEPTANCE POINTS: DESTINATION	FEB/1995

Inspection and acceptance of supplies offered under this purchase order shall take place as specified here. Inspection: DESTINATION. Acceptance: DESTINATION.

[End of Clause]

E.1 INSPECTION & ACCEPTANCE POINT

E.1.1 Inspection and acceptance of all deliverables under this contract shall be made at DESTINATION by the Contracting Officer or his duly authorized representative. The determination that the deliverables are complete and conform to the requirements of the contract will be made by the Contracting Officer's Representative (COR), to assure the work and the results thereof are in accordance with the terms of the contract.

*** END OF NARRATIVE E0001 ***

Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

SECTION F - DELIVERIES OR PERFORMANCE

This document 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 these addresses:

<http://farsite.hill.af.mil/VFFARA.HTM> or <http://farsite.hill.af.mil/VDFARA.HTM> or <http://farsite.hill.af.mil/VFAFARA.HTM>

If the clause requires additional or unique information, then that information is provided immediately after the clause title.

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
F-1	52.242-15	STOP-WORK ORDER (AUG 1989) -- ALTERNATE I (APR 1984)	APR/1984
F-2	52.247-34	F.O.B. DESTINATION	NOV/1991
F-3	52.247-55	F.O.B. POINT FOR DELIVERY OF GOVERNMENT-FURNISHED PROPERTY	JUN/2003
F-4	252.211-7007	REPORTING OF GOVERNMENT-FURNISHED PROPERTY	AUG/2012

F.1 PERIOD OF PERFORMANCE

F.1.1 All effort required under this contract, including delivery of the final technical report, shall be completed within twenty-four (24) months after contract award date.

F.1.2 If there is any conflict between Section B and Section F of this contract, Section F will prevail.

F.2 DATA DELIVERABLES

F.2.1 Delivery of data set forth in the contract shall be in accordance with the Contract Data Requirements List, DD Form 1423.

F.3 MATERIAL/HARDWARE DELIVERABLES

F.3.1 All materials/hardware required to be delivered under the contract shall be delivered FOB Destination to the following address:

US Army TARDEC
ATTN: Robert Karlsen, RDTA-RS, MS 121
6501 E. 11 Mile Rd.
Warren, MI 48397-5000

*** END OF NARRATIVE F0001 ***

Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

SECTION G - CONTRACT ADMINISTRATION DATA

PRON/ AMS CD/ LINE MIPR/	OBLG	JO NO/	ACRN	OBLIGATED
<u>ITEM</u> <u>GFEBs ATA</u>	<u>STAT</u>	<u>ACCT ASSIGN</u>	<u>ACRN</u>	<u>AMOUNT</u>
0001AA R33SB063R3	2	R.0008576.1.1	AA	\$ 499,916.12
TOTAL				\$ 499,916.12

<u>ACRN</u>	<u>ACCOUNTING CLASSIFICATION</u>	OBLIGATED
<u>AA</u>	<u>021 201320142040</u>	<u>AMOUNT</u>
A60FL 665502M40RL03	2550 L035677791 R.0008576.1.1	021001 \$ 499,916.12
TOTAL		\$ 499,916.12

LINE	<u>ACRN</u>	<u>EDI/SFIS ACCOUNTING CLASSIFICATION</u>	OBLIGATED
<u>ITEM</u>	<u>AA</u>	<u>021 201320142040</u>	<u>AMOUNT</u>
0001AA	AA	A60FL 665502M40RL03 2550 L035677791 R.0008576.1.1	021001

<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
G-1 252.232-7006	WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS	MAY/2013

- (a) Definitions. As used in this clause--
- "Department of Defense Activity Address Code (DoDAAC)" is a six position code that uniquely identifies a unit, activity, or organization.
- "Document type" means the type of payment request or receiving report available for creation in Wide Area WorkFlow (WAWF).
- "Local processing office (LPO)" is the office responsible for payment certification when payment certification is done external to the entitlement system.
- (b) Electronic invoicing. The WAWF system is the method to electronically process vendor payment requests and receiving reports, as authorized by DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.
- (c) WAWF access. To access WAWF, the Contractor shall--
- (1) Have a designated electronic business point of contact in the System for Award Management at <https://www.acquisition.gov>; and
 - (2) Be registered to use WAWF at <https://wawf.eb.mil/> following the step-by-step procedures for self-registration available at this Web site.
- (d) WAWF training. The Contractor should follow the training instructions of the WAWF Web-Based Training Course and use the Practice Training Site before submitting payment requests through WAWF. Both can be accessed by selecting the "Web Based Training" link on the WAWF home page at <https://wawf.eb.mil/>.
- (e) WAWF methods of document submission. Document submissions may be via Web entry, Electronic Data Interchange, or File Transfer Protocol.
- (f) WAWF payment instructions. The Contractor must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order:
- (1) Document type. The Contractor shall use the following document type(s): Cost Voucher
 - (2) Inspection/acceptance location. The Contractor shall select the following inspection/acceptance location(s) in WAWF, as specified by the contracting officer: W91ATL
 - (3) Document routing. The Contractor shall use the information in the Routing Data Table below only to fill in applicable fields in WAWF when creating payment requests and receiving reports in the system.

Routing Data Table*

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Field Name in WAWF

Data to be entered in WAWF

Pay Official DoDAAC	HQ0339
Issue By DoDAAC	W56HZV
Admin DoDAAC	S0513A
Inspect By DoDAAC	W91ATL
Ship To Code	W91ATL
Ship From Code	N/A
Mark For Code	N/A
Service Approver (DoDAAC)	W91ATL
Service Acceptor (DoDAAC)	W91ATL
Accept at Other DoDAAC	N/A
LPO DoDAAC	N/A
DCAA Auditor DoDAAC	N/A
Other DoDAAC(s)	N/A

(4) Payment request and supporting documentation. The Contractor shall ensure a payment request includes appropriate contract line item and subline item descriptions of the work performed or supplies delivered, unit price/cost per unit, fee (if applicable), and all relevant back-up documentation, as defined in DFARS Appendix F, (e.g. timesheets) in support of each payment request.

(5) WAWF email notifications. The Contractor shall enter the email address identified below in the "Send Additional Email Notifications" field of WAWF once a document is submitted in the system.

COR Robert Karlsen, robert.e.karlsen.civ@mail.mil

(g) WAWF point of contact. (1) The Contractor may obtain clarification regarding invoicing in WAWF from the following contracting activity's WAWF point of contact.

ACO Bobby Lu, bobby.lu@dcma.mil

(2) For technical WAWF help, contact the WAWF helpdesk at 866-618-5988.

(End of clause)

G-2 52.242-4016 COMMUNICATIONS

FEB/2013

Communications on technical matters pertaining to the contract shall be direct between the contractor and the Contracting Officer Representative (COR). Communications for the COR shall be addressed to:

Name: Robert Karlsen
E-mail: robert.e.karlsen.civ@mail.mil

The Administrative Contracting Officer's (ACO) name and email address are also provided if known at this time:

ACO: Bobby Lu
E-mail: bobby.lu@dcma.mil

Please see the appointment letters prepared at time of contract award for functions the Technical Representative and ACO will perform on this contract.

[End of Clause]

G-3 252.204-0005 PAYMENT INSTRUCTIONS FOR THE DEFENSE FINANCE AND ACCOUNTING SERVICE
(DFARS PGI) (DFAS) - Line Item Specific: by Cancellation Date

SEP/2009

The payment office shall make payment using the ACRN with the earliest cancellation date first, exhausting all funds in that ACRN before disbursing funds from the next. In the event there is more than one ACRN associated with the same cancellation date, the payment amount

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shall be disbursed from each ACRN with the same cancellation date in the same proportion as the amount of funding obligated for each ACRN with the same cancellation date.

[End of Clause]

G-4 52.227-4004 RELEASE OF INFORMATION OCT/2012
(TACOM)

The contractor shall ensure that he complies with the requirements of Chapter 5, page 22, paragraph 5-48, of AR 360-1, The Army Public Affairs Program, dated 15 Sep 2000, prior to contemplated release of any procurement information. Approval of the Contracting Officer is required prior to release of any such information. AR 360-1 may be found at

www.asaie.army.mil/Public/IE/Toolbox/documents/r360_1.pdf

[End of Clause]

G-5 52.232-4087 PAYMENT UNDER WIDE AREA WORKFLOW (ACC WARREN) AUG/2012

To obtain payment, WAWF requires the contractor to input/indicate the various DoDAAC (Department of Defense Activity Address Code) codes that apply to the acquisition. These codes can be found on the cover page of contracts/orders as described below.

The document type the contractor shall use is as follows:

- "Combo" is entered if the award is for supplies or supplies and services are being delivered.
- "2in1" is entered if the award is strictly for services being provided/delivered.

USE THE FOLLOWING CODES TO ROUTE YOUR INVOICES THROUGH WAWF:

- Your firms CAGE code (found in Block 15A of SF 33; Block 17a of SF 1449; Block 14 of SF 1442; Block 7 of SF 26)
- Issue and Admin DoDAAC Code (found in Block 7 of SF 33; Block 9 of SF 1449; Block 7 of SF 1442; Block 5 of SF 26)
- Ship-To DoDAAC Code (if deliverables are involved) (found in Section B of the contract where SF 33, SF 1442, or SF 26 is the cover page; Block 15 of SF 1449)
- Accept-By DoDAAC Code: If Inspection/Acceptance is Origin, use the Admin (DCMA)DoDAAC or the DoDAAC of the inspection/acceptance office if different than the Admin DoDAAC; if Destination, use the Ship-To DODAAC Code. If Accepted-By Other: enter the DoDAAC of the activity designated to perform acceptance.
- Payment DoDAAC Code. (found in Block 25 of SF 33; Block 18a of SF 1449; Block 27 of SF 1442; Block 12 of SF 26)

The paying office DoDAAC and mailing address is located on the first page of the award. To track the status of your invoice, click on the link, Pay status (myInvoice-External link) at the bottom of the left-hand menu.

If your paying office is Columbus, direct any payment-related questions to the Defense Finance Accounting Services (DFAS) Columbus at 1-888-756-4571. Please have your order number and invoice ready when calling about payment status. If your paying office is other than Columbus, contact your contract administrator for the customer service phone/fax numbers.

[End of Clause]

G.1 CONTRACTOR SPECIAL BILLING INSTRUCTIONS:

G.1.1 The contractor must submit cost vouchers, along with corresponding backup data and information, for payment under this contract.

G.1.2 The contractor must notify the cognizant DCAA office whenever an interim voucher is placed into WAWF for processing and payment. This notification is to ensure timely processing and payment for the voucher. DCAA needs to review the interim voucher and approve.

G.1.3 The contractor must notify the Administrative Contracting Officer (ACO) by e-mail whenever a final voucher is placed into WAWF for processing and payment. This notification is to ensure timely processing and payment for the voucher. The ACO needs to review the final voucher and approve.

G.1.4 For further billing instructions, see DFARS clause 252.232-7006, Wide Area WorkFlow Payment Instructions, and DFARS clause 252.232-7003, Electronic Submission of Payment Requests.

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*** END OF NARRATIVE G0001 ***

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SECTION H - SPECIAL CONTRACT REQUIREMENTS

<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
H-1	52.204-4005 REQUIRED USE OF ELECTRONIC CONTRACTING	AUG/2012

(a) All contract awards, modifications and delivery orders issued by Army Contracting Command - Warren (DTA) will be issued electronically. The contractor has the option to receive these actions either via the Worldwide Web (WWW) or Electronic Data Interchange (EDI). Many provisions/clauses that appear "by reference," meaning only clause titles and regulation site are listed; their full texts can be found at the website <http://farsite.hill.af.mil/>

(b) In order to be eligible to receive an award under this solicitation, the successful offeror must be registered with the Department of Defense (DOD) System for Award Management (SAM). The SAM registration process may be done electronically at the World Wide Web (WWW) site: <https://www.sam.gov/portal/public/SAM>. (In order to be registered to use EDI, you must use the long form for registration. Certification information, including information on the EDI 838 TPP, must be furnished to the Contracting Officer within 60 calendar days after contract award to complete networking requirements within the Government.)

(c) Worldwide Web Distribution. The contractor will receive an electronic Notice of the Award, Modification, or Delivery Order via e-mail. If you choose the WWW option, you must download the file from the appropriate Army Contracting Command - Warren webpage:

Warren: http://contracting.tacom.army.mil/CFDATA/AWARDS/AWARD_RPT01.cfm
Rock Island - JMTC: <https://acquisition.army.mil/asfi/>
Red River Army Depot: <https://acquisition.army.mil/asfi/>
Anniston Army Depot: <https://acquisition.army.mil/asfi/>

(d) Electronic Data Interchange. If you choose to receive contract awards, modifications and delivery orders through EDI, they will be delivered electronically via the Federal Acquisition Network (FACNET). Federal Standard Version 3050 of Standard X12 from the American National Standards Institute (ANSI) will be used as the format for these electronic transactions.

(1) You must complete the EDI 838 Trading Partner Profile, and must agree (i) to subcontract with a DoD certified VAN or Value Added Service (VAS) provider, or (ii) to become DoD certified as a Value Added Network (VAN). The EDI 838 Training Partner Profile is contained in the basic SAM registration form and includes portions of the registration form which are titled "Optional".

(2) You must select a VAN from the official DoD approved list. DoD Certified VANs are listed at <http://www.acq.osd.mil/dpap/ebiz/VANs.htm>. If your VAN is later removed from the official list, or if you voluntarily drop your initially selected VAN, then you must switch to a VAN that remains on the official DoD approved list. You must maintain an active account on a DoD approved VAN for the entire duration of the contract, beginning no later than the 60th day after award.

(e) Unless otherwise specified elsewhere in the contract, all data items you are required to provide under this contract must be submitted electronically. Please go to the following webpage for detailed information about submitting your offer electronically: <http://contracting.tacom.army.mil/acqinfo/ebidnotice.htm>

(f) Additional information can be obtained by sending a message to: usarmy.detroit.acc.mbx.wrn-web-page@mail.mil or by calling (586) 282-7059.

SPECIAL PROVISIONS

H.1 SERVICES TO BE PERFORMED: Contractor personnel rendering the services under this contract are not subject, by contract terms or in the manner of its administration, to the supervision and control usually prevailing in relationships between the Government and its employees. The contractor further agrees to refrain from any activity that will make their personnel appear, in effect, to be Government Employees.

H.2 PRIME CONTRACTOR AND PRINCIPAL INVESTIGATOR:

H.2.1 A minimum of one-half of the effort must be performed by the contractor Physical Optics Corporation as the prime contractor.

H.2.2 The Principle Investigator for this contract is Dr. Tin Aye. The Principal Investigator for this contract shall not be changed and no substitution shall be made at any time during performance of this contract without prior written authorization from the Contracting Officer.

H.2.2.1 The primary employment for the Principal Investigator must be with the contractor Physical Optics Corporation. Primary employment means that more than one-half of the Principal Investigator's time is spent with the contractor.

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H.3 GOVERNMENT-FURNISHED PROPERTY

H.3.1 The Government may furnish, from time to time, such items of Government-owned property as deemed necessary to assist the contractor in the performance of the contract requirements.

H.3.2 Upon completion of the contract, or in the event of the termination of the contract, either partial or complete, all Government-owned property, including both property furnished to the contractor and property acquired by the contractor for the account of the Government, which will have become surplus or excess to any remaining contract requirements, shall be reported immediately by the contractor to the Contracting Officer at the US Army Contracting Command, TACOM Contracting Center, ATTN: CCTA-ASG-C, Warren, MI 48397-5000 for redistribution, shipping instructions, release for disposal, or other actions.

H.3.3 Specific Government-Furnished Property to be provided is/are as follows:

<u>Item</u>	<u>Quantity</u>	<u>Serial No./NSN</u>	<u>Acquisition Value</u>
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NONE

*** END OF NARRATIVE H0001 ***

Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

SECTION I - CONTRACT CLAUSES

This document 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 these addresses:

<http://farsite.hill.af.mil/VFFARA.HTM> or <http://farsite.hill.af.mil/VDFARA.HTM> or <http://farsite.hill.af.mil/VFAFARA.HTM>

If the clause requires additional or unique information, then that information is provided immediately after the clause title.

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
I-1	52.202-1	DEFINITIONS	NOV/2013
I-2	52.203-3	GRATUITIES	APR/1984
I-3	52.203-5	COVENANT AGAINST CONTINGENT FEES	APR/1984
I-4	52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	SEP/2006
I-5	52.203-7	ANTI-KICKBACK PROCEDURES	OCT/2010
I-6	52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	JAN/1997
I-7	52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	JAN/1997
I-8	52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	OCT/2010
I-9	52.204-2	SECURITY REQUIREMENTS	AUG/1996
I-10	52.204-4	PRINTED OR COPIED DOUBLE-SIDED ON POSTCONSUMER FIBER CONTENT PAPER	MAY/2011
I-11	52.204-10	REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS	JUL/2013
I-12	52.204-13	SYSTEM FOR AWARD MANAGEMENT MAINTENANCE	JUL/2013
I-13	52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	AUG/2013
I-14	52.209-9	UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS	JUL/2013
I-15	52.211-15	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS	APR/2008
I-16	52.215-2	AUDIT AND RECORDS--NEGOTIATIONS	OCT/2010
I-17	52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT/1997
I-18	52.215-10	PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA	AUG/2011
I-19	52.215-12	SUBCONTRACTOR CERTIFIED COST OR PRICING DATA	OCT/2010
I-20	52.215-14	INTEGRITY OF UNIT PRICES	OCT/2010
I-21	52.215-15	PENSION ADJUSTMENTS AND ASSET REVERSIONS	OCT/2010
I-22	52.215-17	WAIVER OF FACILITIES CAPITAL COST OF MONEY	OCT/1997
I-23	52.215-18	REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS	JUL/2005
I-24	52.215-23	LIMITATIONS ON PASS-THROUGH CHARGES	OCT/2009
I-25	52.216-8	FIXED FEE	JUN/2011
I-26	52.219-6	NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE	NOV/2011
I-27	52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS	JUL/2013
I-28	52.219-14	LIMITATIONS ON SUBCONTRACTING	NOV/2011
I-29	52.222-1	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES	FEB/1997
I-30	52.222-19	CHILD LABOR--COOPERATION WITH AUTHORITIES AND REMEDIES	JAN/2014
I-31	52.222-20	WALSH-HEALEY PUBLIC CONTRACTS ACT	OCT/2010
I-32	52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB/1999
I-33	52.222-26	EQUAL OPPORTUNITY	MAR/2007
I-34	52.222-35	EQUAL OPPORTUNITY FOR VETERANS	SEP/2010
I-35	52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	OCT/2010
I-36	52.222-37	EMPLOYMENT REPORTS ON VETERANS	SEP/2010
I-37	52.222-40	NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT	DEC/2010
I-38	52.222-50	COMBATING TRAFFICKING IN PERSONS	FEB/2009
I-39	52.222-54	EMPLOYMENT ELIGIBILITY VERIFICATION	AUG/2013
I-40	52.223-6	DRUG-FREE WORKPLACE	MAY/2001
I-41	52.223-18	ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING	AUG/2011
I-42	52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JUN/2008
I-43	52.227-1	AUTHORIZATION AND CONSENT (DEC 2007) -- ALTERNATE I (APR 1984)	APR/1984
I-44	52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	DEC/2007
I-45	52.228-7	INSURANCE--LIABILITY TO THIRD PERSONS	MAR/1996
I-46	52.229-3	FEDERAL, STATE, AND LOCAL TAXES	FEB/2013
I-47	52.232-9	LIMITATION ON WITHHOLDING OF PAYMENTS	APR/1984

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I-48	52.232-17	INTEREST	OCT/2010
I-49	52.232-22	LIMITATION OF FUNDS	APR/1984
I-50	52.232-23	ASSIGNMENT OF CLAIMS (JAN 1986) -- ALTERNATE I (APR 1984)	APR/1984
I-51	52.232-25	PROMPT PAYMENT	JUL/2013
I-52	52.232-33	PAYMENT BY ELECTRONIC FUNDS TRANSFER--SYSTEM FOR AWARD MANAGEMENT	JUL/2013
I-53	52.232-39	UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS	JUN/2013
I-54	52.233-1	DISPUTES	JUL/2002
I-55	52.233-3	PROTEST AFTER AWARD (AUG 1996) -- ALTERNATE I (JUN 1985)	JUN/1985
I-56	52.233-4	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	OCT/2004
I-57	52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR/1984
I-58	52.242-3	PENALTIES FOR UNALLOWABLE COSTS	MAY/2001
I-59	52.242-4	CERTIFICATION OF FINAL INDIRECT COSTS	JAN/1997
I-60	52.242-13	BANKRUPTCY	JUL/1995
I-61	52.243-2	CHANGES - COST-REIMBURSEMENT (AUG 1987) -- ALTERNATE V (APR 1984)	APR/1984
I-62	52.244-5	COMPETITION IN SUBCONTRACTING	DEC/1996
I-63	52.244-6	SUBCONTRACTS FOR COMMERCIAL ITEMS	DEC/2013
I-64	52.245-1	GOVERNMENT PROPERTY	APR/2012
I-65	52.245-9	USE AND CHARGES	APR/2012
I-66	52.246-23	LIMITATION OF LIABILITY	FEB/1997
I-67	52.247-63	PREFERENCE FOR U.S.-FLAG AIR CARRIERS	JUN/2003
I-68	52.247-68	REPORT OF SHIPMENT (REPSHIP)	FEB/2006
I-69	52.248-1	VALUE ENGINEERING	OCT/2010
I-70	52.249-6	TERMINATION (COST REIMBURSEMENT)	MAY/2004
I-71	52.249-14	EXCUSABLE DELAYS	APR/1984
I-72	52.253-1	COMPUTER GENERATED FORMS	JAN/1991
I-73	252.201-7000	CONTRACTING OFFICER'S REPRESENTATIVE	DEC/1991
I-74	252.203-7000	REQUIREMENTS RELATING TO COMPENSATION OF FORMER DOD OFFICIALS	SEP/2011
I-75	252.203-7001	PROHIBITION ON PERSONS CONVICTED OF FRAUD OR OTHER DEFENSE-CONTRACT-RELATED FELONIES	DEC/2008
I-76	252.203-7002	REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS	SEP/2013
I-77	252.204-7000	DISCLOSURE OF INFORMATION	AUG/2013
I-78	252.204-7002	PAYMENT FOR SUBLINE ITEMS NOT SEPARATELY PRICED	DEC/1991
I-79	252.204-7003	CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT	APR/1992
I-80	252.204-7004	ALTERNATE A, SYSTEM FOR AWARD MANAGEMENT	FEB/2014
I-81	252.204-7006	BILLING INSTRUCTIONS	OCT/2005
I-82	252.209-7004	SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY	DEC/2006
I-83	252.215-7000	PRICING ADJUSTMENTS	DEC/2012
I-84	252.215-7002	COST ESTIMATING SYSTEM REQUIREMENTS	DEC/2012
I-85	252.223-7008	PROHIBITION OF HEXAVALENT CHROMIUM	JUN/2013
I-86	252.225-7001	BUY AMERICAN AND BALANCE OF PAYMENTS PROGRAM	DEC/2012
I-87	252.225-7002	QUALIFYING COUNTRY SOURCES AS SUBCONTRACTORS	DEC/2012
I-88	252.225-7006	QUARTERLY REPORTING OF ACTUAL CONTRACT PERFORMANCE OUTSIDE THE UNITED STATES	OCT/2010
I-89	252.225-7012	PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES	FEB/2013
I-90	252.225-7013	DUTY-FREE ENTRY	OCT/2013
I-91	252.225-7015	RESTRICTION ON ACQUISITION OF HAND OR MEASURING TOOLS	JUN/2005
I-92	252.225-7016	RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS	JUN/2011
I-93	252.225-7033	WAIVER OF UNITED KINGDOM LEVIES	APR/2003
I-94	252.225-7048	EXPORT-CONTROLLED ITEMS	JUN/2013
I-95	252.226-7001	UTILIZATION OF INDIAN ORGANIZATIONS, INDIAN-OWNED ECONOMIC ENTERPRISES, AND NATIVE HAWAIIAN SMALL BUSINESS CONCERNS	SEP/2004
I-96	252.227-7013	RIGHTS IN TECHNICAL DATA--NONCOMMERCIAL ITEMS	FEB/2014
I-97	252.227-7015	TECHNICAL DATA--COMMERCIAL ITEMS	FEB/2014
I-98	252.227-7016	RIGHTS IN BID OR PROPOSAL INFORMATION	JAN/2011
I-99	252.227-7018	RIGHTS IN NONCOMMERCIAL TECHNICAL DATA AND COMPUTER SOFTWARE--SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM	FEB/2014
I-100	252.227-7019	VALIDATION OF ASSERTED RESTRICTIONS--COMPUTER SOFTWARE	SEP/2011
I-101	252.227-7025	LIMITATIONS ON THE USE OR DISCLOSURE OF GOVERNMENT-FURNISHED INFORMATION MARKED WITH RESTRICTIVE LEGENDS	MAY/2013
I-102	252.227-7027	DEFERRED ORDERING OF TECHNICAL DATA OR COMPUTER SOFTWARE	APR/1988
I-103	252.227-7030	TECHNICAL DATA--WITHHOLDING OF PAYMENT	MAR/2000

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I-104	252.227-7037	VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA	JUN/2013
I-105	252.227-7039	PATENTS--REPORTING OF SUBJECT INVENTIONS	APR/1990
I-106	252.231-7000	SUPPLEMENTAL COST PRINCIPLES	DEC/1991
I-107	252.232-7003	ELECTRONIC SUBMISSION OF PAYMENT REQUESTS AND RECEIVING REPORTS	JUN/2012
I-108	252.232-7010	LEVIES ON CONTRACT PAYMENTS	DEC/2006
I-109	252.235-7011	FINAL SCIENTIFIC OR TECHNICAL REPORT	NOV/2004
I-110	252.237-7010	PROHIBITION ON INTERROGATION OF DETAINEES BY CONTRACTOR PERSONNEL	JUN/2013
I-111	252.242-7006	ACCOUNTING SYSTEM ADMINISTRATION	FEB/2012
I-112	252.243-7001	PRICING OF CONTRACT MODIFICATIONS	DEC/1991
I-113	252.243-7002	REQUESTS FOR EQUITABLE ADJUSTMENT	DEC/2012
I-114	252.244-7000	SUBCONTRACTS FOR COMMERCIAL ITEMS	JUN/2013
I-115	252.245-7001	TAGGING, LABELING, AND MARKING OF GOVERNMENT-FURNISHED PROPERTY	APR/2012
I-116	252.245-7002	REPORTING LOSS OF GOVERNMENT PROPERTY	APR/2012
I-117	252.246-7000	MATERIAL INSPECTION AND RECEIVING REPORT	MAR/2008
I-118	252.246-7001	WARRANTY OF DATA	DEC/1991
I-119	252.247-7023	TRANSPORTATION OF SUPPLIES BY SEA	JUN/2013
I-120	252.247-7024	NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA	MAR/2000
I-121	52.216-7	ALLOWABLE COST AND PAYMENT	JUN/2013

(a) Invoicing.

(1) The Government will make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Federal Acquisition Regulation (FAR) Subpart 31.2 in effect on the date of this contract and the terms of this contract. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.

(2) Contract financing payments are not subject to the interest penalty provisions of the Prompt Payment Act. Interim payments made prior to the final payment under the contract are contract financing payments, except interim payments if this contract contains Alternate I to the clause at 52.232-25.

(3) The designated payment office will make interim payments for contract financing on the "30th" day after the designated billing office receives a proper payment request. In the event that the Government requires an audit or other review of a specific payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date.

(b) Reimbursing costs.

(1) For the purpose of reimbursing allowable costs (except as provided in subparagraph (b)(2) of this clause, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term costs includes only --

(i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;

(ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for --

(A) Supplies and services purchased directly for the contract and associated financing payments to subcontractors, provided payments determined due will be made

(1) In accordance with the terms and conditions of a subcontract or invoice; and

(2) Ordinarily within 30 days of the submission of the Contractors payment request to the Government;

(B) Materials issued from the Contractors inventory and placed in the production process for use on the contract;

(C) Direct labor;

(D) Direct travel;

(E) Other direct in-house costs; and

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(F) Properly allocable and allowable indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and

(iii) The amount of financing payments that have been paid by cash, check or other form of payment to subcontractors.

(2) Accrued costs of Contractor contributions under employee pension plans shall be excluded until actually paid unless

(i) The Contractors practice is to make contributions to the retirement fund quarterly or more frequently; and

(ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractors indirect costs for payment purposes).

(3) Notwithstanding the audit and adjustment of invoices or vouchers under paragraph (g) of this clause, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) of this clause.

(4) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractors expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.

(c) Small business concerns. A small business concern may receive more frequent payments than every 2 weeks.

(d) Final indirect cost rates.

(1) Final annual indirect cost rates and the appropriate bases shall be established in accordance with Subpart 42.7 of the Federal Acquisition Regulation (FAR) in effect for the period covered by the indirect cost rate proposal.

(2)(i) The Contractor shall submit an adequate final indirect cost rate proposal to the Contracting Officer (or cognizant Federal agency official) and auditor within the 6-month period following the expiration of each of its fiscal years. Reasonable extensions, for exceptional circumstances only, may be requested in writing by the Contractor and granted in writing by the Contracting Officer. The Contractor shall support its proposal with adequate supporting data.

(ii) The proposed rates shall be based on the Contractors actual cost experience for that period. The appropriate Government representative and the Contractor shall establish the final indirect cost rates as promptly as practical after receipt of the Contractors proposal.

(iii) An adequate indirect cost rate proposal shall include the following data unless otherwise specified by the cognizant Federal agency official:

(A) Summary of all claimed indirect expense rates, including pool, base, and calculated indirect rate.

(B) General and Administrative expenses (final indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts).

(C) Overhead expenses (final indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts) for each final indirect cost pool.

(D) Occupancy expenses (intermediate indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts) and expense reallocation to final indirect cost pools.

(E) Claimed allocation bases, by element of cost, used to distribute indirect costs.

(F) Facilities capital cost of money factors computation.

(G) Reconciliation of books of account (i.e., General Ledger) and claimed direct costs by major cost element.

(H) Schedule of direct costs by contract and subcontract and indirect expense applied at claimed rates, as well as a subsidiary schedule of Government participation percentages in each of the allocation base amounts.

(I) Schedule of cumulative direct and indirect costs claimed and billed by contract and subcontract.

(J) Subcontract information. Listing of subcontracts awarded to companies for which the contractor is the prime or upper-tier contractor (include prime and subcontract numbers; subcontract value and award type; amount claimed during the fiscal year; and the subcontractor name, address, and point of contact information).

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(K) Summary of each time-and-materials and labor-hour contract information, including labor categories, labor rates, hours, and amounts; direct materials; other direct costs; and, indirect expense applied at claimed rates.

(L) Reconciliation of total payroll per IRS form 941 to total labor costs distribution.

(M) Listing of decisions/agreements/approvals and description of accounting/organizational changes.

(N) Certificate of final indirect costs (see 52.242-4, Certification of Final Indirect Costs).

(O) Contract closing information for contracts physically completed in this fiscal year (include contract number, period of performance, contract ceiling amounts, contract fee computations, level of effort, and indicate if the contract is ready to close).

(iv) The following supplemental information is not required to determine if a proposal is adequate, but may be required during the audit process:

(A) Comparative analysis of indirect expense pools detailed by account to prior fiscal year and budgetary data.

(B) General Organizational information and limitation on allowability of compensation for certain contractor personnel. See 31.205-6(p). Additional salary reference information is available at [://www.whitehouse.gov/omb/procurement_index_exec_comp/](http://www.whitehouse.gov/omb/procurement_index_exec_comp/).

(C) Identification of prime contracts under which the contractor performs as a subcontractor.

(D) Description of accounting system (excludes contractors required to submit a CAS Disclosure Statement or contractors where the description of the accounting system has not changed from the previous year's submission).

(E) Procedures for identifying and excluding unallowable costs from the costs claimed and billed (excludes contractors where the procedures have not changed from the previous year's submission).

(F) Certified financial statements and other financial data (e.g., trial balance, compilation, review, etc.).

(G) Management letter from outside CPAs concerning any internal control weaknesses.

(H) Actions that have been and/or will be implemented to correct the weaknesses described in the management letter from subparagraph (G) of this section.

(I) List of all internal audit reports issued since the last disclosure of internal audit reports to the Government.

(J) Annual internal audit plan of scheduled audits to be performed in the fiscal year when the final indirect cost rate submission is made.

(K) Federal and State income tax returns.

(L) Securities and Exchange Commission 10-K annual report.

(M) Minutes from board of directors meetings.

(N) Listing of delay claims and termination claims submitted which contain costs relating to the subject fiscal year.

(O) Contract briefings, which generally include a synopsis of all pertinent contract provisions, such as: Contract type, contract amount, product or service(s) to be provided, contract performance period, rate ceilings, advance approval requirements, pre-contract cost allowability limitations, and billing limitations.

(v) The Contractor shall update the billings on all contracts to reflect the final settled rates and update the schedule of cumulative direct and indirect costs claimed and billed, as required in paragraph (d)(2)(iii)(I) of this section, within 60 days after settlement of final indirect cost rates.

(3) The Contractor and the appropriate Government representative shall execute a written understanding setting forth the final indirect cost rates. The understanding shall specify

(i) the agreed-upon final annual indirect cost rates,

(ii) the bases to which the rates apply,

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(iii) the periods for which the rates apply,

(iv) any specific indirect cost items treated as direct costs in the settlement, and

(v) the affected contract and/or subcontract, identifying any with advance agreements or special terms and the applicable rates.

The understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract. The understanding is incorporated into this contract upon execution.

(4) Failure by the parties to agree on a final annual indirect cost rate shall be a dispute within the meaning of the Disputes clause.

(5) Within 120 days (or longer period if approved in writing by the Contracting Officer) after settlement of the final annual indirect cost rates for all years of a physically complete contract, Contractor shall submit a completion invoice or voucher to reflect the settled amounts and rates. The completion invoice or voucher shall include settled subcontract amounts and rates. The prime contractor is responsible for settling subcontractor amounts and rates included in the completion invoice or voucher and providing status of subcontractor audits to the contracting officer upon request.

(6)(i) If the Contractor fails to submit a completion invoice or voucher within the time specified in paragraph (d)(5) of this clause, the Contracting Officer may--

(A) Determine the amounts due to the Contractor under the contract; and

(B) Record this determination in a unilateral modification to the contract.

(ii) This determination constitutes the final decision of the Contracting Officer in accordance with the Disputes clause.

(e) Billing rates. Until final annual indirect cost rates are established for any period, the Government shall reimburse the Contractor at billing rates established by the Contracting Officer or by an authorized representative (the cognizant auditor), subject to adjustment when the final rates are established. These billing rates --

(1) Shall be the anticipated final rates; and

(2) May be prospectively or retroactively revised by mutual agreement, at either party's request, to prevent substantial overpayment or underpayment.

(f) Quick-closeout procedures. Quick-closeout procedures are applicable when the conditions in FAR 42.708(a) are satisfied.

(g) Audit. At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be --

(1) Reduced by amounts found by the Contracting Officer not to constitute allowable costs; or

(2) Adjusted for prior overpayments or underpayments.

(h) Final payment.

(1) Upon approval of a completion invoice or voucher submitted by the Contractor in accordance with paragraph (d)(5) of this clause, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.

(2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest, if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver --

(i) An assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and

(ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except --

(A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known;

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(B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and

(C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractors indemnification of the Government against patent liability.

(End of Clause)

I-122 52.222-2 PAYMENT FOR OVERTIME PREMIUMS JUL/1990

(a) The use of overtime is authorized under this contract if the overtime premium does not exceed "AMOUNT TO BE NEGOTIATED IN RFP" 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.

(End of Clause)

I-123 52.227-11 PATENT RIGHTS--OWNERSHIP BY THE CONTRACTOR DEC/2007

(a) As used in this clause--

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

Made means--

(1) When used in relation to any invention other than a plant variety, the conception or first actual reduction to practice of the invention; or

(2) When used in relation to a plant variety, that the Contractor has at least tentatively determined that the variety has been reproduced with recognized characteristics.

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

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

Subject invention means any invention of the Contractor made in the performance of work under this contract.

(b) Contractor's rights. (1) Ownership. The Contractor may retain ownership of each subject invention throughout the world in accordance with the provisions of this clause.

(2) License. (i) The Contractor shall retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, unless the Contractor fails to disclose the invention within the times specified in paragraph (c) of this clause. The Contractor's license extends to any domestic subsidiaries and affiliates within the corporate structure of which the Contractor is a part, and includes the right to grant sublicenses to the extent the Contractor was legally obligated to do so at contract award. The license is transferable only with the written approval of the agency, except when transferred to the successor of that part of the Contractor's business to which the invention pertains.

(ii) The Contractor's license may be revoked or modified by the agency to the extent necessary to achieve expeditious practical application of the subject invention in a particular country in accordance with the procedures in FAR 27.302(i)(2) and 27.304-1(f).

(c) Contractor's obligations. (1) The Contractor shall disclose in writing each subject invention to the Contracting Officer within 2 months after the inventor discloses it in writing to Contractor personnel responsible for patent matters. The disclosure shall identify the inventor(s) and this contract under which the subject invention was made. It shall be sufficiently complete in technical detail to convey a clear understanding of the subject invention. The disclosure shall also identify any publication, on sale (i.e., sale or offer for sale), or public use of the subject invention, or whether a manuscript describing the subject invention has been submitted for publication and, if so, whether it has been accepted for publication. In addition, after disclosure to the agency, the Contractor shall promptly notify the Contracting Officer of the acceptance of any manuscript describing the subject invention for publication and any on sale or public use.

(2) The Contractor shall elect in writing whether or not to retain ownership of any subject invention by notifying the Contracting Officer within 2 years of disclosure to the agency. However, in any case where publication, on sale, or public use has initiated the 1-year statutory period during which valid patent protection can be obtained in the United States, the period for election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.

(3) The Contractor shall file either a provisional or a nonprovisional patent application or a Plant Variety Protection Application on an elected subject invention within 1 year after election. However, in any case where a publication, on sale, or public use has initiated the 1-year statutory period during which valid patent protection can be obtained in the United States, the Contractor shall file the application prior to the end of that statutory period. If the Contractor files a provisional application, it shall file a nonprovisional application within 10 months of the filing of the provisional application. The Contractor shall file patent applications in additional countries or international patent offices within either 10 months of the first filed patent application (whether provisional or nonprovisional) or 6 months from the date permission is granted by the Commissioner of Patents to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) The Contractor may request extensions of time for disclosure, election, or filing under paragraphs (c)(1), (c)(2), and (c)(3) of this clause.

(d) Government's rights--(1) Ownership. The Contractor shall assign to the agency, on written request, title to any subject invention--

(i) If the Contractor fails to disclose or elect ownership to the subject invention within the times specified in paragraph (c) of this clause, or elects not to retain ownership; provided, that the agency may request title only within 60 days after learning of the Contractor's failure to disclose or elect within the specified times.

(ii) In those countries in which the Contractor fails to file patent applications within the times specified in paragraph (c) of this clause; provided, however, that if the Contractor has filed a patent application in a country after the times specified in paragraph (c) of this clause, but prior to its receipt of the written request of the agency, the Contractor shall continue to retain ownership in that country.

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

(2) License. If the Contractor retains ownership of any subject invention, the Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice, or have practiced for or on its behalf, the subject invention throughout the world.

(e) Contractor action to protect the Government's interest. (1) The Contractor shall execute or have executed and promptly deliver to

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the agency all instruments necessary to--

(i) Establish or confirm the rights the Government has throughout the world in those subject inventions in which the Contractor elects to retain ownership; and

(ii) Assign title to the agency when requested under paragraph (d) of this clause and to enable the Government to obtain patent protection and plant variety protection for that subject invention in any country.

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

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

(4) The Contractor shall include, within the specification of any United States nonprovisional patent or plant variety protection application and any patent or plant variety protection certificate issuing thereon covering a subject invention, the following statement, "This invention was made with Government support under (identify the contract) awarded by (identify the agency). The Government has certain rights in the invention."

(f) Reporting on utilization of subject inventions. The Contractor shall submit, on request, periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining utilization of the subject invention that are being made by the Contractor or its licensees or assignees. The reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and other data and information as the agency may reasonably specify. The Contractor also shall provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in accordance with paragraph (h) of this clause. The Contractor also shall mark any utilization report as confidential/proprietary to help prevent inadvertent release outside the Government. As required by 35 U.S.C. 202(c)(5), the agency will not disclose that information to persons outside the Government without the Contractor's permission.

(g) Preference for United States industry. Notwithstanding any other provision of this clause, neither the Contractor nor any assignee shall grant to any person the exclusive right to use or sell any subject invention in the United States unless the person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for an agreement may be waived by the agency upon a showing by the Contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States, or that under the circumstances domestic manufacture is not commercially feasible.

(h) March-in rights. The Contractor acknowledges that, with respect to any subject invention in which it has retained ownership, the agency has the right to require licensing pursuant to 35 U.S.C. 203 and 210(c), and in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the agency in effect on the date of contract award.

(i) Special provisions for contracts with nonprofit organizations. If the Contractor is a nonprofit organization, it shall--

(1) Not assign rights to a subject invention in the United States without the written approval of the agency, except where an assignment is made to an organization that has as one of its primary functions the management of inventions, provided, that the assignee shall be subject to the same provisions as the Contractor;

(2) Share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (but through their agency if the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;

(3) Use the balance of any royalties or income earned by the Contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions for the support of scientific research or education; and

(4) Make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business concerns, and give a preference to a small business concern when licensing a subject invention if the Contractor determines that the small business concern has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business concerns; provided, that the Contractor is also satisfied that the small business concern has the capability and resources to carry out its plan or proposal. The

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decision whether to give a preference in any specific case will be at the discretion of the Contractor.

(5) Allow the Secretary of Commerce to review the Contractor's licensing program and decisions regarding small business applicants, and negotiate changes to its licensing policies, procedures, or practices with the Secretary of Commerce when the Secretary's review discloses that the Contractor could take reasonable steps to more effectively implement the requirements of paragraph (i)(4) of this clause.

(j) Communications. N/A

(k) Subcontracts. (1) The Contractor shall include the substance of this clause, including this paragraph (k), in all subcontracts for experimental, developmental, or research work to be performed by a small business concern or nonprofit organization.

(2) The Contractor shall include in all other subcontracts for experimental, developmental, or research work the substance of the patent rights clause required by FAR Subpart 27.3.

(3) At all tiers, the patent rights clause must be modified to identify the parties as follows: references to the Government are not changed, and the subcontractor has all rights and obligations of the Contractor in the clause. The Contractor shall not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(4) In subcontracts, at any tier, the agency, the subcontractor, and the Contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the agency with respect to the matters covered by the clause; provided, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection with proceedings under paragraph (h) of this clause.

(End of clause)

I-124 52.244-2 SUBCONTRACTS OCT/2010

(a) Definitions. As used in this clause

Approved purchasing system means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR)

Consent to subcontract means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

Subcontract means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

(b) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (c) or (d) of this clause.

(c) If the contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that--

(1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or

(2) Is fixed-price and exceeds

(i) For a contract awarded by the Department of Defense, the Coast Guard, or the national Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or

(ii) For contracts awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts: N/A

(e)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (b), (c), or (d) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

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(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate certified cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting --

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason certified cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's certified cost or pricing data in determining the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's certified cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (c), (d), or (e) or this clause.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination --

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(i) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.i

(j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations: N/A

(End of clause)

I-125 252.232-7007 LIMITATION OF GOVERNMENT'S OBLIGATION (MAY 2006) -- ALTERNATE I (MAY MAY/2006
2006)

(a) Contract line item 0001 is incrementally funded. The sum of \$498,974.13 is presently available for payment and allotted to this

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Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

contract. An allotment schedule is contained in paragraph (j) of this clause.

(b) For item(s) identified in paragraph (a) of this clause, the Contractor agrees to perform up to the point at which the total amount payable by the Government, including reimbursement in the event of termination of those item(s) for the Government's convenience, approximates the total amount currently allotted to the contract. The Contractor is not authorized to continue work on those item(s) beyond that point. The Government will not be obligated in any event to reimburse the Contractor in excess of the amount allotted to the contract for those item(s) regardless of anything to the contrary in the clause entitled "Termination for Convenience of the Government." As used in this clause, the total amount payable by the Government in the event of termination of applicable contract line item(s) for convenience includes costs, profit, and estimated termination settlement costs for those item(s).

(c) Notwithstanding the dates specified in the allotment schedule in paragraph (j) of this clause, the Contractor will notify the Contracting Officer in writing at least ninety days prior to the date when, in the Contractor's best judgment, the work will reach the point at which the total amount payable by the Government, including any cost for termination for convenience, will approximate 85 percent of the total amount then allotted to the contract for performance of the applicable item(s). The notification will state (1) the estimated date when that point will be reached and (2) an estimate of additional funding, if any, needed to continue performance of applicable line items up to the next scheduled date for allotment of funds identified in paragraph (j) of this clause, or to a mutually agreed upon substitute date. The notification will also advise the Contracting Officer of the estimated amount of additional funds that will be required for the timely performance of the item(s) funded pursuant to this clause, for a subsequent period as may be specified in the allotment schedule in paragraph (j) of this clause or otherwise agreed to by the parties. If after such notification additional funds are not allotted by the date identified in the Contractor's notification, or by an agreed substitute date, the Contracting Officer will terminate any item(s) for which additional funds have not been allotted, pursuant to the clause of this contract entitled "Termination for Convenience of the Government."

(d) When additional funds are allotted for continued performance of the contract line item(s) identified in paragraph (a) of this clause, the parties will agree as to the period of contract performance which will be covered by the funds. The provisions of paragraphs (b) through (d) of this clause will apply in like manner to the additional allotted funds and agreed substitute date, and the contract will be modified accordingly.

(e) If, solely by reason of failure of the Government to allot additional funds, by the dates indicated below, in amounts sufficient for timely performance of the contract line item(s) identified in paragraph (a) of this clause, the Contractor incurs additional costs or is delayed in the performance of the work under this contract and if additional funds are allotted, an equitable adjustment will be made in the price or prices (including appropriate target, billing, and ceiling prices where applicable) of the item(s), or in the time of delivery, or both. Failure to agree to any such equitable adjustment hereunder will be a dispute concerning a question of fact within the meaning of the clause entitled "Disputes."

(f) The Government may at any time prior to termination allot additional funds for the performance of the contract line item(s) identified in paragraph (a) of this clause.

(g) The termination provisions of this clause do not limit the rights of the Government under the clause entitled "Default." The provisions of this clause are limited to the work and allotment of funds for the contract line item(s) set forth in paragraph (a) of this clause. This clause no longer applies once the contract is fully funded except with regard to the rights or obligations of the parties concerning equitable adjustments negotiated under paragraphs (d) and (e) of this clause.

(h) Nothing in this clause affects the right of the Government to terminate this contract pursuant to the clause of this contract entitled "Termination for Convenience of the Government."

(i) Nothing in this clause shall be construed as authorization of voluntary services whose acceptance is otherwise prohibited under 31 U.S.C. 1342.

(j) The parties contemplate that the Government will allot funds to this contract in accordance with the funding schedule in Section B of this contract.

(End of clause)

I-126

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 United States Army under Contract No. W56HZV-14-C-0116.

(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

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expressed in this material are those of the author(s) and do not necessarily reflect the views of the United States Army.

(End of clause)

I-127 52.215-19 NOTIFICATION OF OWNERSHIP CHANGES OCT/1997

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

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

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

(b) The Contractor shall --

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

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

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

(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).

(End of Clause)

I-128 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION JUL/2013

(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. Such a concern is "not dominant in its field of operation" when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration shall be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity.

(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

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(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to --

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(End of Clause)

I-130 52.223-11 OZONE-DEPLETING SUBSTANCES MAY/2001

(a) Definition. Ozone-depleting substance, as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR Part 82 as--

(1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or

(2) Class II, including, but not limited to hydrochlorofluorocarbons.

(b) The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as follows:

Warning

Contains (or manufactured with, if applicable) * _____, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

* The Contractor shall insert the name of the substance(s).

(End of Clause)

I-131 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:

<http://www.acq.osd.mil/dpap/dars/far.html> or <http://www.acq.osd.mil/dpap/dars/index.htm> or <http://farsite.hill.af.mil/VFAFARA.HTM>

(End of Clause)

I-132 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.

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(b) The use in this solicitation or contract of any DoD FAR SUPPLEMENT (48 CFR 2) clause with an authorized deviation is indicated by the addition of (DEVIATION) after the name of the regulation.

(End of Clause)

I-133 252.223-7001 HAZARD WARNING LABELS DEC/1991

(a) Hazardous material, as used in this clause, is defined in the Hazardous Material Identification and Material Safety Data clause of this contract.

(b) The Contractor shall label the item package (unit container) of any hazardous material to be delivered under this contract in accordance with the Hazard Communication Standard (29 CFR 1910.1200 et seq). The Standard requires that the hazard warning label conform to the requirements of the standard unless the material is otherwise subject to the labeling requirements of one of the following statutes:

- (1) Federal Insecticide, Fungicide and Rodenticide Act;
- (2) Federal Food, Drug and Cosmetics Act;
- (3) Consumer Product Safety Act;
- (4) Federal Hazardous Substances Act; or
- (5) Federal Alcohol Administration Act.

(c) The Offeror shall list which hazardous material listed in the Hazardous Material Identification and Material Safety Data clause of this contract will be labeled in accordance with one of the Acts in paragraphs (b)(1) through (5) of this clause instead of the Hazard Communication Standard. Any hazardous material not listed will be interpreted to mean that a label is required in accordance with the Hazard Communication Standard.

MATERIAL (If None, Insert None.)	ACT
_____	_____
_____	_____
_____	_____

(d) The apparently successful Offeror agrees to submit, before award, a copy of the hazard warning label for all hazardous materials not listed in paragraph (c) of this clause. The Offeror shall submit the label with the Material Safety Data Sheet being furnished under the Hazardous Material Identification and Material Safety Data clause of this contract.

(e) The Contractor shall also comply with MIL-STD-129, Marking for Shipment and Storage (including revisions adopted during the term of this contract).

(End of clause)

I-134 52.204-4009 MANDATORY USE OF CONTRACTOR TO GOVERNMENT ELECTRONIC COMMUNICATION MAR/2005

(a) All references in the contract to the submission of written documentation shall mean electronic submission. All electronic submissions shall be in the formats and media described in the website:

<http://contracting.tacom.army.mil/acqinfo/ebidnotice.htm>

(b) This shall include all written unclassified communications between the Government and the Contractor except contract awards and contract modifications which shall be posted on the internet. Return receipt shall be used if a commercial application is available. Classified information shall be handled in full accordance with the appropriate security requirements.

(c) In order to be contractually binding, all Government communications requiring a Contracting Officer signature must be sent from the Contracting Officer's e-mail address. The Contractor shall designate the personnel with signature authority who can contractually bind the contractor. All binding contractor communication shall be sent from this contractor e-mail address(es).

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(d) Upon award, the Contractor shall provide the Contracting Officer with a list of e-mail addresses for all administrative and technical personnel assigned to this contract.

(e) Unless exempted by the Procuring Contracting Officer in writing, all unclassified written communication after contract award shall be transmitted electronically.

[End of Clause]

I-135 52.219-4070 PILOT MENTOR-PROTEGE PROGRAM APR/2006

(a) The Pilot Mentor-Protege Program does not apply to small business concerns.

(b) Utilization of the Pilot Mentor-Protege Program (hereafter referred to as the Program) is encouraged. Under the Program, eligible companies approved as mentor firms enter into a mentor-protege agreement with eligible protege firms. The goal of the program is to provide appropriate developmental assistance to enhance the capabilities of the protege firm. The Mentor firm may be eligible for cost reimbursement or credit against their applicable subcontracting goals.

(c) Mentor firms are encouraged to identify and select concerns that are defined as emerging small business concerns, small disadvantaged business, women-owned small business, HUBZone small business, service-disabled veteran-owned small business, veteran-owned small business or an eligible entity employing the severely disabled.

(d) Full details of the program are located at [http://www.acq.osd.mil/sadbu/mentor protege/](http://www.acq.osd.mil/sadbu/mentor_protege/)

or

<http://sellingtoarmy.info/User/ShowPage.aspx?SectionID=12>

(e) For additional questions after reviewing the information provided, contact the Office of Small Business Programs serving your area.

[End of Clause]

The clauses below are incorporated by reference with the same force and effect as if they were given in full text. The full text of a clause may be accessed electronically at the following web address:

<http://farsite.hill.af.mil/VFFARA.HTM>

<u>Regulatory Cite</u>	<u>Title</u>
252.227-7017 JUN/1995	IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS
252.227-7028 JUN/1995	TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT

*** END OF NARRATIVE I0001 ***

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Name of Offeror or Contractor: PHYSICAL OPTICS CORPORATION

SECTION J - LIST OF ATTACHMENTS

<u>List of</u> <u>Addenda</u>	<u>Title</u>	<u>Date</u>	<u>Number</u> <u>of Pages</u>	<u>Transmitted By</u>
Exhibit A	CONTRACT DATA REQUIREMENTS LIST	27-MAR-2014	005	
Attachment 0001	INSTRUCTIONS FOR COMPLETING SF 298	27-MAR-2014	001	
Attachment 0002	TAILORING FOR DID DI-MISC-81612A	16-APR-2014	003	

CONTRACT DATA REQUIREMENT LIST

Form Approval OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 440 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed below on line E.

A. CONTRACT LINE ITEM NO: 0002B. EXHIBIT.....: A C. CATEGORY.....: ReportsD. SYSTEM/ITEM.....: Retro-transmitting Omni-bi-directional On-the-move Laser-illuminated Non-line-of-sight Optical Communication SystemE. CONTRACT/PR NO.....: W56HZV-14-C-0116F. CONTRACTOR.....: Physical Optics Corporation

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- 1. DATA ITEM NO.....: A001
- 2. TITLE OF DATA ITEM.....: Contractor's Progress, Status, and Management Report
- 3. SUBTITLE.....: Phase II Progress Reports
- 4. AUTHORITY.....: DI-MGMT-80227 (T)*
- 5. CONTRACT REFERENCE.....: Section C.4.1
- 6. REQUIRING OFFICE.....: RDTA-RS
- 7. WAFW/DD250 REQ.....: LT
- 8. APP CODE.....:
- 9. DIST. STATEMENT REQUIRED...:
- 10. FREQUENCY.....: See Block 16
- 11. AS OF DATE.....: See Block 16
- 12. DATE OF FIRST SUB.....: See Block 16
- 13. DATE OF SUBS. SUB.....: See Block 16
- 14. DISTRIBUTION.....: SUBMIT REPORTS ELECTRONICALLY TO THE E-MAIL ADDRESSES SHOWN IMMEDIATELY BELOW:

14A. ADDRESSEES: Robert Karlsen, Contracting Officer's Representative
(COR), E-mail: robert.e.karlsen.civ@mail.mil

Patricia Roussin, Contract Specialist (CS), E-mail: patricia.m.roussin.civ@mail.mil

Bobby Lu, Administrative Contracting Officer (ACO), E-mail: bobby.lu@dcma.mil

15. TOTAL:

16. REMARKS:

16A) The Contractor shall deliver progress reports every two months. The first report is due in sixty (60) days after the contract award date.

16B) Complete the reports in accordance with (IAW) Data Item Description (DID) DI-MGMT-80227, "Contractor's Progress, Status, and Management Report." The COR is responsible for accepting or rejecting the "Contractor's Progress, Status, and Management Reports."

*NOTE TAILORING: Delete paragraphs 10.2, 10.3 k, and l from DID DI-MGMT-80227.

17. PRICE GROUP:
18. ESTIMATED TOTAL PRICE :

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- 1. DATA ITEM NO.....: A002
- 2. TITLE OF DATA ITEM.....: Scientific and Technical Reports
- 3. SUBTITLE.....: Phase II Draft and Final Technical Reports
- 4. AUTHORITY.....: DI-MISC-80711A(T) *
- 5. CONTRACT REFERENCE.....: Section C.4.2
- 6. REQUIRING OFFICE.....: RDTA-RS
- 7. WAFW/DD250 REQ.....: DD
- 8. APP CODE.....:
- 9. DIST. STATEMENT REQUIRED...:
- 10. FREQUENCY.....: See Block 16

- 11. AS OF DATE.....: See Block 16
- 12. DATE OF FIRST SUB.....: See Block 16
- 13. DATE OF SUBS. SUB.....: See Block 16
- 14. DISTRIBUTION.....: SUBMIT REPORTS ELECTRONICALLY TO THE E-MAIL ADDRESSES SHOWN IMMEDIATELY BELOW:

14A. ADDRESSEES: Robert Karlsen, Contracting Officer's Representative (COR), E-mail: robert.e.karlsen.civ@mail.mil

Patricia Roussin, Contract Specialist (CS), E-mail: patricia.m.roussin.civ@mail.mil

Bobby Lu, Administrative Contracting Officer (ACO), E-mail: bobby.lu@dcma.mil

- 15. TOTAL:
- 16. REMARKS:

16A) The Contractor shall deliver one (1) draft "Scientific and Technical Report," twenty-three (23) months after contract award. The draft report shall include a completed Standard Form (SF) 298 (Report Documentation Page) as the report's cover sheet. The COR shall review the draft report and return it to the Contractor within fourteen (14) days of receipt with comments. The Contractor shall submit one (1) final "Scientific and Technical Report" (with the completed SF 298) within fourteen (14) days after receipt of draft comments.

16B) Complete the reports IAW DID DI-MISC 80711A, "Scientific and Technical Reports." The COR is responsible for accepting or rejecting the draft and final reports, and for submitting the approved final report to the Defense Technical Information Center (DTIC), in Ft. Belvoir, VA.

16C) Instructions for completing the SF 298 are provided in Attachment 001 to the contract and the form can be found at <http://www.dtic.mil/dtic/submit/howtosubmit/howtosubmit.html>.

Here are some additional instructions for completing the SF 298 form that apply when submitting reports under the SBIR Program:

For each unclassified report, the Contractor shall fill in Block 12a (Distribution/Availability Statement) of the SF 298 with one of the following statements:

- (a) Approved for public release; distribution unlimited.
- (b) Distribution authorized to U.S. Government Agencies only; contains proprietary information

Note: After reviewing the Contractor's entry in Block 12a, TARDEC has final responsibility for assigning a distribution statement. The contractor shall mark the actual report itself in accordance with the appropriate legends set forth in DFARS 252.227-7018, "RIGHTS IN NONCOMMERCIAL TECHNICAL DATA AND COMPUTER SOFTWARE -- SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM".

Block 13 (Abstract) of the SF 298 must include the first sentence, "Report developed under SBIR contract for topic A12-119." The abstract must identify the purpose of the work and briefly describe the work carried out, the finding or results, and the potential applications of the effort. Since the Department of Defense (DOD) will be publishing the abstract, it must not contain any proprietary or classified data.

Block 14 (Subject Terms) of the SF 298 must include the term "SBIR Report."

*NOTE TAILORING: Delete paragraph 10.2 from DID DI-MISC-80711A.

- 17. PRICE GROUP:
- 18. ESTIMATED TOTAL PRICE:

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- 1. DATA ITEM NO.....: A003
- 2. TITLE OF DATA ITEM.....: Research and Development (R&D) Project Summary
- 3. SUBTITLE.....:
- 4. AUTHORITY.....: DI-MISC-81612A(T)*
- 5. CONTRACT REFERENCE.....: Section C.4.4
- 6. REQUIRING OFFICE.....: RDTA-RS
- 7. DD250 REQ.....:
- 8. APP CODE.....:

- 9. DIST. STATEMENT REQUIRED...: A
- 10. FREQUENCY.....: See Block 16
- 11. AS OF DATE.....: See Block 16
- 12. DATE OF FIRST SUB.....: See Block 16
- 13. DATE OF SUBS. SUB.....: See Block 16
- 14. DISTRIBUTION.....: SUBMIT REPORTS ELECTRONICALLY TO THE E-MAIL ADDRESSES SHOWN IMMEDIATELY BELOW:

14A) ADDRESSEES:

Robert Karlsen, Contracting Officer's Representative (COR), E-mail: robert.e.karlsen.civ@mail.mil

Patricia Roussin, Contract Specialist (CS), E-mail: patricia.m.roussin.civ@mail.mil

Bobby Lu, Administrative Contracting Officer (ACO), E-mail: bobby.lu@dema.mil

- 15. TOTAL:
- 16. REMARKS:

16A) The contractor must submit a publicly-releasable SBIR Phase II R&D Project Summary at the end of contract. The summary is an unclassified, non-sensitive, and non-proprietary summation of results that is intended for public viewing on the Army SBIR / STTR Small Business Portal. It should address the Data Item requirements on a summary basis and must not exceed 700 words.

Since the Department of Defense (DOD) will be publishing the summary, it must not contain any proprietary, classified, or ITAR restricted data. The summary must be submitted electronically and be in HTML format.

16B) The Contractor shall deliver one (1) draft SBIR Phase II R&D Project Summary twenty-three (23) months after contract award. The COR shall review the draft project summary and return it to the Contractor within fifteen (15) days of receipt with comments. The Contractor shall submit one (1) final SBIR Phase II R&D Project Summary within fifteen (15) days after receipt of draft comments (24 months after contract award).

*NOTE TAILORING: DID DI-MISC-81612A is tailored by deleting the underlined text as noted in Attachment 002 to the contract.

- 17. PRICE GROUP:
- 18. ESTIMATED TOTAL PRICE:

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***** THE FOLLOWING INSTRUCTION APPLIES TO ALL REPORTS DELIVERABLE UNDER THE CONTRACT *****

Prepare the reports in Contractor format. Submit the reports using any of the following electronic formats:

- (1) Files readable using these Microsoft* Office XP or Microsoft* Office 2002 & lower Products: Word, Excel, PowerPoint, or Access. Spreadsheets must be sent in a file format that includes all formulae, macro and format information. Print or scan images of spreadsheets are not acceptable. Please see security note below for caution regarding use of macros.
- (2) Files in Adobe PDF (Portable Document Format). When scanning documents, scanner should be set to 200 dots per inch.
- (3) Files in HTML (Hypertext Markup Language) Format. HTML documents must not contain active links to Internet websites or web pages for reference information. All linked information must be contained within your electronic report, and be accessible offline.
- (4) Other electronic formats. Before preparing your report in any other electronic format, please e-mail the COR to obtain a decision as to the format's acceptability. This e-mail must be received by the COR not later than ten (10) calendar days before the draft report's due date. All alternate methods must be at no cost to the Government.
- (5) Please note that we can no longer accept .zip files due to increasing security concerns.

NOTE. Macros: The virus scanning software used by our e-mail systems cannot always distinguish a macro from a virus. Therefore, sending a macro embedded in an e-mail message or an e-mail attachment may cause the e-mail report to be quarantined.

Acceptable media: The Contractor shall submit reports via e-mail. If e-mail is not workable, another acceptable media is a 650 MEGABYTE CD-ROM or 4.7 GIGABYTE DVD-ROM. Identify the software application and version used to create each file submitted.

(1) E-MAIL. Maximum size of each e-mail message shall be five (5) megabytes. Previously "zipped" files were accepted, but due to security concerns these zipped attachments cannot be received through our mail system. You may use multiple e-mail messages if necessary; however, you must annotate the subject lines in this manner: "Message 1 of 3, 2 of 3, 3 of 3."

(2) 650 MEGABYTE CD-ROM or 4.7 GIGABYTE DVD-ROM to be delivered via U.S. Mail or other carrier. The Contractor shall label all submitted disks with the Contract number, the Contractor's name, and a contact's phone number. Exterior mailing envelopes containing disks must be addressed to the following address:

U.S. Army TARDEC Robert Karlsen RDTA-RS/MS 2646501 East 11 Mile Road Warren, MI 48397-5000

NOTE: Please select only one type of electronic media to transmit each report. For instance, do not submit a report via e-mail and CD-ROM.

* Registered

INSTRUCTIONS FOR COMPLETING SF 298

1. REPORT DATE. Full publication date, including day, month, if available. Must cite at least the year, e.g. 30-06-1998; xx-06-1998; xxxx-1998.
2. REPORT TYPE. State the type of report, such as final, technical, interim, memorandum, master's thesis, progress, quarterly, research, special, group study, etc.
3. DATES COVERED. Indicate the time during which the work was performed and the report was written, e.g., Jun 2001 - Jun 2002; 1-10 Jun 2003; May - Nov 2004; Nov 2002.
4. TITLE. Enter title and subtitle with volume number and part number, if applicable. On classified documents, enter the title classification in parentheses.
- 5a. CONTRACT NUMBER. Enter the contract number as it appears in the report, e.g. W56HZV-08-C-0001.
- 5b. GRANT NUMBER. Enter all grant numbers (if applicable) as they appear in the report, e.g. AFOSR-82-1234.
- 5c. PROGRAM ELEMENT NUMBER. Enter all program element numbers (if applicable) as they appear in the report, e.g. 61101A.
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14. ABSTRACT. A brief (approximately 200 words) factual summary of the most significant information.
15. SUBJECT TERMS. Key words or phrases identifying major concepts in the report.

DATA ITEM DESCRIPTION

Title: RESEARCH AND DEVELOPMENT (R&D) PROJECT SUMMARY

Number: DI-MISC-81612A

Approval Date: 20031215

AMSC Number: D7517

Limitation:

DTIC Applicable: N/A

GIDEP Applicable: N/A

Preparing Activity: OSD-SO (FOR DARPA/IXO)

Applicable Forms: N/A

Use, Relationships:

The R&D Project Summary reports key project administrative, programmatic, technical data. The R&D Project Summary includes administrative information, research objectives, innovative approaches, accomplishments, plans, technology transitions, technology transfers, and issues. The technical information contained in the R&D Project Summary enables comprehensive assessment of project goals, progress and status. This Data Item Description (DID) contains format and content preparation instructions for the data product generated by specific and discrete task requirements as delineated in the contract statement of work (SOW).

Requirements:

1. Project Information.

1.1. Administrative Information.

1.1.1. Subcontractors. Verify each subcontractor.

1.1.2. Performing Organization Contacts.

1.1.2.1. Principal Investigator(s) Contact. Verify the name, organization, business address, business phone, business fax, and e-mail address of each principal investigator.

1.1.2.2. Administrative Contact. Verify the name, organization, business address, business phone, business fax, and e-mail address of the administrative point of contact.

1.1.2.3. DELETE

1.1.2.4. Programmatic/Technical Reporter Contact. If the Principal Investigator is not the reporter of the programmatic/technical data verify the name, organization, business address, business phone, business fax, and e-mail address of the programmatic/technical reporter point of contact.

1.2. Programmatic Information.

1.2.1. Project Uniform Resource Locator (URL). Provide the project URL.

1.2.2. Project Description.

1.2.2.1. Research Objectives.

1.2.2.2. Problem Description. Provide a concise description of the problem area addressed by this research project.

1.2.2.2.1. Research Goals. Identify specific research goals of this project. Identify and quantify expected performance improvements from this research. Identify new capabilities enabled by this research. Identify and discuss salient features and capabilities of developmental hardware and software prototypes.

1.2.2.2.2. Expected Impact. Describe the expected impact of the research project, if successful, to the problem area.

1.2.2.3. Technical Approach.

1.2.2.3.1. Detailed Description of Technical Approach. Provide a detailed description of the technical approach that will be used in this project to achieve the research goals. Specifically identify and discuss innovative aspects of the technical approach.

1.2.2.3.2. Comparison with Current Technology. Describe state-of-the-art approaches and the limitations within the context of the problem area addressed by this research.

1.2.2.4. Schedule and Milestones.

1.2.2.4.1. Schedule Graphic. Provide a graphic representation of the project schedule. Show all project milestones. Use absolute time designations for all dates.

1.2.2.4.2. DELETE

1.2.2.5. Deliverables Description. List and provide a description for each planned deliverable and expected delivery dates for each deliverable.

1.2.2.6. Technology Transition and Technology Transfer Targets and Plans. Discuss plans for technology transition and transfer. Identify specific military and commercial organizations for technology transition or transfer. Specify anticipated dates for transition or transfer.

1.2.2.7. Quad Chart. Provide a Quad Chart as one (1) landscape-oriented page divided into four (4) quadrants and suitable for use in briefings using the following format:

I			I
I	Project Title		I
I			I
I	GRAPHIC:	NEW IDEAS:	I
I			I
I	A visually competing graphic that conveys the key	I	List new technical ideas embodied by the
I	technological idea(s) or the expected impact of	I	research.
I	the research.	I	
I		I	I
I			I
I	IMPACT:	SCHEDULE:	I
I			I
I	Quantitative statements discussing how this	I	Use absolute time designations for all dates.
I	research can revolutionize an area of importance	I	
I	to the Department of Defense.	I	I
I		I	I
I			I

2. DELETE

2.1. DELETE

2.2. DELETE

2.3. DELETE

2.4. DELETE

2.5. DELETE

2.6. DELETE

3. Technical Report.

3.1. Project Progress.

3.1.1. Progress Against Planned Objectives. Update the status of the specific objectives. For each objective, indicate if the objective was or was not accomplished. For each objective not accomplished, detail the current status of the objective.

3.1.2. Technical Accomplishments this Period. Describe the technical accomplishments made.

3.1.3. Improvements to Prototypes this Period. Provide a detailed, quantitative description of significant new features, capabilities and performance enhancements to hardware and software prototypes made.

3.1.4. Significant Changes to Technical Approach to Date. Identify and provide a detailed description of and rationale for significant changes to the technical approach since the start of the research project.

3.1.5. Deliverables this Period. Report the deliverables (excluding Technology Transition and Transfer covered under 3.1.6.) submitted. List the Deliverable Name, Type of Deliverable (e.g. hardware or software item, demonstration, milestone, design study or other documentation), and Date of Submission. Specify the organization that received the deliverable.

3.1.6. Technology Transition and Transfer this Period.

3.1.6.1. Technology Transition and Transfer Description. List and describe the features and performance capabilities for each technology transitioned or transferred.

3.1.6.2. Technology Transition and Transfer List. For each technology transitioned or transferred, identify the specific military, commercial, or other transition or transfer organization(s) and the application context.

3.1.6.3. Technology Transition and Transfer Contacts. For each technology transitioned or transferred, specify the organization, that received the transitioned or transferred technology.

3.1.7. DELETE

3.1.8. DELETE

3.1.9. Issues or Concerns. Summarize any funding, technical, programmatic, or other issues or concerns as well as recommended actions for consideration.

3.2. Project Plans.

3.2.1. Planned Activities. Describe the planned activities. Discuss the risks and payoffs corresponding to the planned activities. Include a discussion of planned experiments, demonstrations, presentations, and technical papers.

3.2.2. DELETE

END OF DI-MISC-81612A