ORDER FOR SUPPLIES OR SERVICES

1. CONTRACT/PURCH. ORDER/ AGREEMENT NO.	2. DELIVERY ORDER/ CALL NO.	3. DATE OF ORDER/CALL	4. REQ./ PURCH. REQUEST NO.	5. PRIORITY
DASG60-02-D-0009	002430	2002 Apr 23	CP2B301100-01	DX-A2

6. ISSUED BY CODE W9113M
US ARMY SPACE & MISSILE DEFENSE COMMAND
[redacted]
HUNTSVILLE AL 35807-3801

7. ADMINISTERED BY CODE S0107A
DCMA HUNTSVILLE
BUILDING 4505, SUITE 301
MARTIN ROAD
REDSTONE ARSENAL AL 35898-0001

8. DELIVERY FOB
[X] DEST
[ ] OTHER
(See Schedule if other)

9. CONTRACTOR CODE 0JLS6 FACILITY
BAE SYSTEMS ANALYTICAL SOLUTIONS INC
1525 PERIMETER PKW, STE 500
HUNTSVILLE AL 35806

10. DELIVER TO FOB POINT BY (Date)
SEE SCHEDULE

11. MARK IF BUSINESS IS
[ ] SMALL
[ ] SMALL DISADVANTAGED
[ ] WOMEN-OWNED

12. DISCOUNT TERMS

13. MAIL INVOICES TO THE ADDRESS IN BLOCK
See Item 15

14. SHIP TO CODE
SEE SCHEDULE

15. PAYMENT WILL BE MADE BY CODE HQ0338
DFAS-COLUMBUS CENTER
DFAS-CO/SOUTH ENTITLEMENT OPERATION
P.O. BOX 182264
COLUMBUS OH 43218-2264

MARK ALL PACKAGES AND PAPERS WITH IDENTIFICATION NUMBERS IN BLOCKS 1 AND 2.

16. TYPE OF ORDER
DELIVERY/ CALL [X] This delivery order/call is issued on another Govt. agency or in accordance with and subject to terms and conditions of above numbered contract.
PURCHASE [ ] Reference your quote dated
Furnish the following on terms specified herein. REF:

ACCEPTANCE. THE CONTRACTOR HEREBY ACCEPTS THE OFFER REPRESENTED BY THE NUMBERED PURCHASE ORDER AS IT MAY PREVIOUSLY HAVE BEEN OR IS NOW MODIFIED, SUBJECT TO ALL OF THE TERMS AND CONDITIONS SET FORTH, AND AGREES TO PERFORM THE SAME.

NAME OF CONTRACTOR | SIGNATURE | TYPED NAME AND TITLE | DATE SIGNED (YYYYMMMDD)

[ ] If this box is marked, supplier must sign Acceptance and return the following number of copies:

17. ACCOUNTING AND APPROPRIATION DATA/ LOCAL USE
See Schedule

18. ITEM NO.	19. SCHEDULE OF SUPPLIES/ SERVICES	20. QUANTITY ORDERED/ ACCEPTED*	21. UNIT	22. UNIT PRICE	23. AMOUNT
	SEE SCHEDULE				

** If quantity accepted by the Government is same as quantity ordered, indicate by X. If different, enter actual quantity accepted below quantity ordered and encircle.*

24. UNITED STATES OF AMERICA
[redacted]
[redacted]
CONTRACTING / ORDERING OFFICER

25. TOTAL $7,552,216.00
29. DIFFERENCES

26. QUANTITY IN COLUMN 20 HAS BEEN
[ ] INSPECTED [ ] RECEIVED [ ] ACCEPTED, AND CONFORMS TO THE CONTRACT EXCEPT AS NOTED
DATE | SIGNATURE OF AUTHORIZED GOVT. REP.

27. SHIP NO.
[ ] PARTIAL
[ ] FINAL

28. DO VOUCHER NO.

30. INITIALS

31. PAYMENT
[ ] COMPLETE
[ ] PARTIAL
[ ] FINAL

32. PAID BY

33. AMOUNT VERIFIED CORRECT FOR

34. CHECK NUMBER

35. BILL OF LADING NO.

36. I certify this account is correct and proper for payment.
DATE | SIGNATURE AND TITLE OF CERTIFYING OFFICER

37. RECEIVED AT	38. RECEIVED BY	39. DATE RECEIVED (YYYYMMMDD)	40. TOTAL CONTAINERS	41. S/R ACCOUNT NO.	42. S/R VOUCHER NO.

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0001		1	Lot	UNDEFINED	UNDEFINED

SETAC - FP Labor

COST

Provide services outlined in the scope of work (SOW), as defined in a given task order (T/O), at the fixed prices/government labor category specified in Section B paragraph entitled, "GOVERNMENT LABOR CATEGORIES AND ASSOCIATED FIXED PRICES PER DPPH"

PURCHASE REQUEST NUMBER: CP2B301100-01

MAX COST $7,065,765.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0003		1	Lot	UNDEFINED	UNDEFINED

Consultants

COST

Provide services outlined in the scope of work (SOW) at the cost reimbursable amounts as approved on a task-order-by-task-order basis. Total Fee, including prime and subcontractor/consultant, shall not exceed 3% of the estimated costs. This CLIN is valid during the three-year base period as well as any/all award term extensions earned by the contractor.

PURCHASE REQUEST NUMBER: CP2B301100-01

MAX COST $0.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0004		1	Lot	UNDEFINED	UNDEFINED

Materials and STE

COST

Provide materials, special test equipment (STE), and associated services outlined in the individual task orders at the cost reimbursable amounts as approved by the T/OM and the Contracting Officer. NO FEE ON THIS CLIN. This CLIN is valid during the three-year base period as well as any/all award term extensions earned by the contractor.

PURCHASE REQUEST NUMBER: CP2B301100-01

MAX COST $0.00

FOB: Destination

ITEM NO	SUPPLIES/SERVICES	MAX QUANTITY	UNIT	UNIT PRICE	MAX AMOUNT
0005		1	Lot	UNDEFINED	UNDEFINED

Travel

COST

Travel as directed in the individual task orders. Travel must be completed within the cost reimbursable amounts allowed per the Joint Travel Regulations and the DCAA-approved Company-Implemented Policy and Procedures. NO FEE ON THIS CLIN. This CLIN is valid during the three-year base period as well as any/all award term extensions earned by the contractor.

PURCHASE REQUEST NUMBER: CP2B301100-01

MAX COST $486,451.00

FOB: Destination

BLOCK 17/BLOCK 18 CONTINUED

TASK ORDER FUNDS REQUIRED	$ 7,552,216
TASK ORDER FUNDS AVAILABLE	$ 7,552,216
UNFUNDED BALANCE	$ 0

BLOCK 18 (DD1155) CONTINUED: In the performance of this Task Order (T/O), the contractor shall provide the total Direct Productive Person Hours (DPPHs), plus or minus 10 percent, as stated for fixed-price labor categories stated in Section B of the contract listed in Block 1 of the DD Form 1155. These DPPHs shall be billed at the fixed price stated in Exhibit V of the contract. The contractor shall not exceed the DPPHs, nor the total

dollars, stated for consultant below. The contractor is allowed to provide up to 10 percent less than the DPPHs stated for consultant and still expend the total dollars as stated in the T/O. Furthermore, under no circumstance shall the contractor exceed the dollars stated for Materials, Travel, or Total T/O.

LABOR CATEGORIES: Labor categories are as listed in the contract, Section B, paragraph entitled "GOVERNMENT LABOR CATEGORIES AND ASSOCIATED FIXED PRICES PER DPPH"

		DPPHs ORDERED	NTE AMOUNT
FIXED-PRICE LABOR TOTAL	[redacted]	DPPHs	$ 7,065,765
*CONSULTANT TOTAL	[redacted]	DPPHs	$ 0
T/0 TOTAL LABOR	[redacted]	DPPHs	$ 7,065,765
MATERIAL		NTE	$ 0
TRAVEL		NTE	$ 486,451
T/O TOTAL			$ 7,552,216

**Consultant requirements must have prior written approval of the Administrative Contracting Officer (ACO) (via subcontract consent package) before any costs are incurred under the consultant CLIN.

Section C - Descriptions and Specifications

A SOW

"FUNCTION AND ALGORITHM TECHNOLOGY"

1.0 The contractor shall provide engineering/technical assistance to the U.S. Army Space and Missile Defense Command (USASMDC) in support of the Optical Data Analysis (ODA) Program.

1.1 Data Collection Planning. The contractor shall participate in ODA planning efforts, as required.

1.2 System Integration & Test (SIT) Data Collection Planning. The contractor shall provide flight test planning support for all flight tests, as required. This support is to include the following:

1.2.1 Auxiliary sensor measurement requirements definition

1.2.2 Sensor allocation recommendations

1.2.3 Auxiliary sensor trade studies and configuration recommendations

1.2.4 Range optics configuration and placement recommendations

1.2.5 Optimal launch time recommendations

1.2.6 Target instrumentation recommendations (e.g., thermocouple placement)

1.2.7 Test readiness review support

1.2.8 Data handling plan preparation assistance

1.2.9 Support of the ODA Data Analysis Team

1.3 Critical Measurements Program (CMP) Planning. The contractor shall provide technical assistance to the CMP, including the following:

1.3.1 Test definition and mission planning

1.3.2 Sensor requirements and allocation recommendations

1.3.3 Mission Requirements Document (MRD) preparation

1.3.4 Range instrumentation recommendations

1.3.5 Test article requirements and instrumentation recommendations

1.3.6 Payload/booster data reduction recommendations

1.3.7 Fly Along Sensor Package (FASP) calibration recommendations

1.3.8 Data handling plan preparation

1.3.9 Pre-mission data package preparation and distribution

1.3.10 Quick-Look Report, Final Report, and system applications analysis planning

1.3.11 Telemetry data reduction planning

1.3.12 Data user interface support

1.4 The contractor shall support the Preliminary Design Review (PDR) and Critical Design Review (CDR) meetings and participate in related technical interchange meetings, mission planning meetings, and user group meetings.

1.5 Quick-Look Report Preparation. The contractor shall prepare detailed quick-look auxiliary sensor data collection summaries for CMP and SIT flights, BMDS element flights, Project Hercules flights, and others as directed by the Task Order Monitor (T/OM). When necessary, Quick-Look Reports are to be prepared on-site and distributed to designated recipients after each flight; other Quick-Look Reports will be prepared on-site or at the ODA facility, per direction of the T/OM. These reports are to contain the following:

1.5.1 Sensor-by-sensor data collection descriptions

1.5.2 Data collection timelines

1.5.3 Data content and quality descriptions

1.5.4 Anomaly identification

1.5.5 Digitized video images showing data collection highlights

1.6 Data Reduction and Analysis. The contractor shall analyze and interpret optical data collected on upcoming flight tests for CMP, SIT, BV, BMDS elements, and Project Hercules, as well as others directed by the T/OM. This shall include infrared (IR), ultraviolet (UV), and visible hard body signatures, imagery, and spectral data. Radiometric, temporal, and metric analyses shall be performed in order to characterize the target and target scene; data products shall be extracted to support algorithm studies and modeling activities. When available, interceptor imagery shall be analyzed for diagnostic purposes to assist the in assessing missile performance.

1.6.1 The contractor shall analyze optical data from previous domestic flight tests in order to support on-going ODA target characterization, modeling, and algorithm development activities. Foreign data collections shall also be processed and analyzed, when available.

1.6.2 Emphasis shall be placed on multi-sensor data comparisons. In addition, the contractor shall compare the IR signature measurements with Optical Signatures Code (OSC) simulations in order to identify any unexpected features in the data. Such unexplained features or anomalies shall be documented and investigated. Data sources shall include, but are not limited to, the following sensors: Airborne Surveillance Testbed (AST), Advanced Real Time Gaming Universal Simulation (ARGUS), High Altitude Observatory/Infrared Instrumentation System (HALO/IRIS), HALO/Fast Framing Infrared Scoring and Tracking (HALO/FFIRST), COBRA BALL, Sea Light Beam Director (SLBD), Rapid Optical Beam Steering (ROBS), Apache Point Observatory (APO), Space Based Infrared System (SBIRS), Army Research Laboratory (ARL), sensors on-board HALO II, sensors at RTS, sensors at PMRF (such as AEOS and SHOTS), and range optics sensors. Data from new sensors will be analyzed as the sensors come on line. Raw data shall be processed and reduced when necessary to support these data analysis activities.

1.6.3 In addition to performing optical data analyses, the contractor shall process and analyze telemetry data to support target characterization and modeling activities. Target Inertial Measurement Unit (IMU) data shall be used to extract target orientation and dynamics as a function of time. Individual thermocouple data sets shall be

analyzed, interpreted, and compared. Measured temperature profiles shall be compared with pre- and post-flight thermal response calculations. Any discrepancies shall be documented along with potential explanations.

1.6.4 The contractor shall analyze thermal and optical data from any available static firing tests. The data analysis results shall be used to improve the related target models.

1.6.5 The contractor shall document analysis results in briefings, technical memos, and/or written reports. Findings shall be presented at conferences, data reviews, and technical interchange meetings and documented for ODA.

1.7 Simulation and Modeling. The contractor shall use OSC to generate ensembles of IR threat signatures to support algorithm evaluation studies applicable to the MDA programs and BMDS elements as well as other programs, as directed by the T/OM. As the anticipated BEST simulation becomes available it will be utilized for these task items. Detailed OSC or BEST target models shall be developed and updated based upon Defense Intelligence Agency (DIA)/Missile and Space Intelligence Center (MSIC) and Naval Air Intelligence Center (NAIC) assessments. Uncertainties in materials and missile construction shall be taken into account, and countermeasures (ascent phase, midcourse, and endgame) shall be included as excursions when appropriate. Simulated signatures are to be compared to actual flight test data (optical and thermal), whenever possible, in order to identify potential modeling deficiencies. In addition to providing optical signature simulation support, the contractor shall perform radar cross-section calculations on selected threat models using simulations such as XPATCH, as directed by the T/OM.

1.7.1 The contractor shall support the ODA Program ongoing end-to-end interceptor simulation and seeker simulation development activities. The contractor shall provide programming support along with software integration and testing assistance. This shall include seeker focal plane model development. The contractor shall also use these simulations to support algorithm development and evaluation studies.

1.8 Algorithm Development and Evaluation. The contractor shall research, develop, and evaluate innovative seeker algorithms applicable to MDA programs, BMDS elements, Hercules Project, as well as other programs as directed by the T/OM. Acquisition, designation, tracking, discrimination, Target Object Map (TOM) handover, aimpoint selection, and related signal processing algorithm issues shall be addressed. Simulated signature ensembles and images shall be used to evaluate algorithm performance under a wide variety of stressing conditions. Whenever feasible, relevant flight test data, domestic and foreign, shall be used to augment these studies.

1.8.1 The contractor shall conduct a detailed review of the seeker algorithms contained in the interceptor avionics software as directed by the T/OM.

1.9 Specialized Technical Assistance. The contractor shall attend technical interchange meetings, assist in briefing preparation, and provide documentation input to ODA in technical areas outline above. This effort shall encompass Integrated Product Teams (IPTs), established by the Missile Defense Agency (MDA), IR Phenomenology Roadmap Study activities, and other studies as directed by the T/OM.

1.9.1 At the direction of the T/OM, the contractor shall utilize ODA data analysis, discrimination, and modeling results to support international programs.

1.10 Computer/Network Maintenance. The contractor shall maintain the Special Test Equipment (STE) and the associated networks located at the ODA facility in peak operating condition. This includes Windows NT and Silicon Graphics workstations, along with all associated peripheral equipment on the classified and unclassified networks. As directed by the T/OM, this will also include new computer systems such as those developed by Mercury or others. Software and hardware upgrades shall be implemented as required, and recommendations for new hardware or software purchases shall be provided as required by the Government. The contractor shall also

assist with the installation and operation of the Virtual Data Center (VDC) link between the ODA facility and the MDDC.

1.11 Other Support. The contractor shall provide an on-site document control specialist responsible for operating and maintaining the classified ODA document library. Responsibilities shall include logging new and incoming documents; distributing documents; keeping track of loaned documents; maintaining/updating a document control database; and performing document searches along with other associated duties.

B POP

24 Apr 02 – 3 Dec 04

C KEY PERS

[redacted]

D DELIVERABLES

Item/Title	CDRL#	# Copies	Delivery Date
Task Order Management Plan	A001	1 *	Per CDRL
FMER	A003	1 *	Per CDRL
Recommendations	A004	3	As Occurs
Plans/Data Package	A004	3	As Occurs
Quick Look Report	A004	4	As Occurs
Discrepancies	A004	2	As Occurs
Briefings/Charts	A004	2	As Required
TMD/NMD Algorithm Techniques	A004	2	As Occurs
Monthly Technical Status	A004	2	Monthly
Data Accession List	A007	1	Per CDRL
Trip Report	A007	2	As Occurs + 3 Work Days

* Plus Electronic Version.

E TVL

Except for the locations listed below, the contractor has no authority to incur travel costs without explicit prior written approval (email acceptable) of the Task Order Monitor. **The contractor is not authorized to travel outside the United States without the explicit written approval (email acceptable) of the Contracting Officer.** Under no circumstance shall the contractor incur travel costs in excess of the NTE amount stated herein. NTE: $ 486,451

WSMR, NM	Boston, MA	Washington, DC	Sunnyvale, CA
AEDC, TN	Phoenix, AZ		

F MTRL

ESTIMATED COST FOR MATERIALS AND/OR SPECIAL TEST EQUIPMENT: The contractor has no authority to incur material costs without the explicit prior written approval of the contracting officer. Prior to forwarding requests to the contracting officer, the contractor shall obtain the Task Order Monitor's concurrence. Electronic Mail (email) shall be utilized for both steps in this process. Under no circumstance shall the contractor incur materials costs in excess of the NTE amount stated herein. NTE: $ 0

G SPEC INST

Cost data shall be segregated/reported/vouchered/paid at the ACRN level.

The “Limitation of Funds” is applicable at the ACRN level.

The effort described in the Task Order Statement of Work, which is anticipated to be performed in FY02, FY03, FY04, and FY05 is subject to the Clause at FAR 52.232-18, Availability of Funds.

All of the terms and conditions of the contract listed in Block 1 above are applicable to this T/O.

All of the provisions and clauses of the contract listed in Block 1 above are applicable to this T/O.

No Government Furnished Property or Test Facilities are available for use in performance of this Task Order.

It is incumbent upon the contractor and/or subcontractor to ensure that appropriate Technical Assistance Agreements (TAAs) and/or applicable export licenses are in place before conducting any activity under the SOW which requires such approval and documentation.

Effort completed under this T/O requires access to Special Compartmental Information (SCI) data. SCI access is allowable in accordance with the DD Form 254, Contract Security Classification Specification, incorporated into the contract under which this T/O is executed. Certain contractor personnel must possess TOP SECRET/Sensitive Compartmental Information (SCI) Clearance access and/or be eligible for immediate adjudication by the cognizant security authority. It is incumbent upon the contractor to obtain appropriate approval for individual SCI billets from the SCI monitor listed in the DD254.

H DIST

INTELLIGENCE AND SECURITY DIVISION DISTRIBUTION:

[redacted]

[redacted]

TASK ORDER MONITOR: [redacted]

MAILING ADDRESS: [redacted]

PROGRAM MANAGEMENT POC: [redacted]

MAILING ADDRESS: [redacted]

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 97 2 0400.2501 36-6011 P40603880C00 2514 CP2B300600 S01021 CP2B300600/2HHN12/H
COST CODE: 000000000000
AMOUNT: $0.00

AB: 97 2 0400.2501 36-6011 P40603880C00 2514 JS2B702100 S01021 JS2B702100/2HHN08/H
COST CODE: 000000000000
AMOUNT: $170,000.00

AC: 972 0400.2501 36-6011 P40603880C00 2514 JC2B510600 S01021 JC2B510600/2HHN09/H
COST CODE: 000000000000
AMOUNT: $280,000.00

AD: 97 2 0400.2501 36-6011 P40603880C00 2514 CP2B301100 S01021 CP2B301100/2HHN12/H
COST CODE: 000000000000
AMOUNT: $576,512.00

AE: 97 2 0400.2501 36-6011 P40603880C00 2514 JS2B720900 S01021 JS2B720900/2HHN47/H
COST CODE: 000000000000
AMOUNT: $90,000.00

AF: 97 2 0400.2501 36-6011 P40603880C00 2514 CP2B330500 S01021 CP2B330500/2HHN16/H
COST CODE: 000000000000
AMOUNT: $100,000.00

AG: 97 3 0400.02501 36-6011 P40603880C00 2514 CP3B300700 S01021 CP3B300700/3HHN07/H
COST CODE: 000000000000
AMOUNT: $1,113,000.00

AH: 97 3 0400.2501 36-6011 P40603880C00 2514 JS3B700900 S01021 JS3B700900/3HHN21/H
AMOUNT: $260,000.00

AJ: 97 3 0400.2501 36-6011 P40603880C00 2514 JS3B720300 S01021 JS3B720300/3HHN09/H
AMOUNT: $350,000.00

AK: 973 0400.2501 36-6011 P40603880C00 2514 JC3B522300 S01021 JC3B522300/3HHN10/H
AMOUNT: $200,000.00

AL: 21 3 2040 36-9318 P643308.990-2514 AG3A701900 S01021 AG3A701900/3HHN25/H
AMOUNT: $364,815.00

AM: 97 3 0400.2501 36-6011 P40603880C00 2514 CP3B395200 S01021 CP3B395200/3HHN70/H
AMOUNT: $40,000.00

AN: 21 3 2040 36-9318 P40603880C00-2514 AG3A703600 S01021 AG3A703600/3HHN25/H
AMOUNT: $38,000.00

AP: 97 2 0400.2501 36-6011 P40603880C00 2514 JS2B714800 S01021 JS2B714800/2HHN10/H
AMOUNT: $125,689.00

AQ: 973 0400.2501 36-6011 P40603880C00 2514 JC3B550200 S01021 JC3B550200/3HHN33/H
AMOUNT: $220,000.00

AR: 974 0400.2501 36-6011 P40603888C00 2514 KN4C510400 S01021 KN4C510400/4HHK07/H
AMOUNT: $1,000,000.00

AS: 97 3 0400.2501 36-6011 P40603880C00 2514 JS3B710200 S01021 JS3B710200/3HHN18/H
AMOUNT: $75,000.00

AT: 974 0400.2501 36-6011 P40603888C00 2514 JC4B551300 S01021 JC4B551300/4HHK60/H
AMOUNT: $95,000.00

AU: 97 4 0400.2501 36 6011 P40603888C00 2514 JS4B720300 S01021 JS4B720300/4HHK14/H
AMOUNT: $473,000.00

AV: 97 4 0400.2501 36 6011 P40603888C00 2514 JS4B710600 S01021 JS4B710600/4HHK09/H
AMOUNT: $800,000.00

AW: 97 4 0400.2501 36 6011 P40603888C00 2514 JS4B730000 S01021 JS4B730000/4HHK17/H
AMOUNT: $275,000.00

AX: 9740400 8ABC 255 SA452 0 068342 2D 000000 070910000040 N0002404MP11546(1) REF: N0002404AF18ABC
AMOUNT: $80,000.00

AY: 974 0400.2501 36 6011 P40603888C00 2514 JS4B730900 S01021 JS4B730900/4HHK17/H
AMOUNT: $323,200.00

AZ: 97 4 0400.2501 36 6011 P40603888C00 2514 JS4B700900 S01021 JS4B700900/4HHK13/H
AMOUNT: $200,000.00

BA: 974 0400.2501 BM-THAD 40603881C00.0707 255Y TH4TST9FA3 S01021 TH4TST9FA3/4THEMD/TH0000
AMOUNT: $105,000.00

BB: 97 4 0400.2501 36 6011 P40603888C00 2514 JS4B737100 S01021 JS4B737100/4HHK17/H
AMOUNT: $198,000.00