



DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS 412TH TEST WING (AFMC)  
EDWARDS AIR FORCE BASE CALIFORNIA

January 14, 2020

Colonel Kirk Reagan  
195 E Popson Avenue  
Edwards AFB, CA 93524

John Greenewald Jr.  
The Black Vault  
27305 W Live Oak Rd.  
Suite 1203  
Castaic, CA 91384

Dear Mr. Greenewald,

This responds to your 30 October 2019, Freedom of Information Act (FOIA) request 2020-00428-F received on 4 November 2019, which seeks the following:

*“I respectfully request a copy of records, electronic or otherwise, of the following: 1) A copy of Contract Number F04611-99-C-0025. For reference, this was the contract that this document was created under: <http://www.theblackvault.com/documentarchive/teleportation-physics-study-air-force-researchlaboratory-august-2004-dr-eric-w-davis/>”*

We reviewed 61 pages of which 10 are partially releasable in accordance with the following exemptions.

FOIA Exemption 6, 5 U.S.C. §552 (b)(6), governs the collection, maintenance, use, and dissemination of information about individuals that is maintained in systems of records by federal agencies. The Privacy Act prohibits agencies from disclosing “any record which is contained in a system of records by any means of communication to any person, or to another agency, except pursuant to a written request by, or with the prior written consent of the individual”; therefore the names and signatures of individuals on the contract have been withheld.

If you disagree and interpret this response as an adverse action, you may write to the Secretary of the Air Force, thru: the Edwards AFB FOIA mailbox at [s533c5@us.af.mil](mailto:s533c5@us.af.mil) within 90 calendar days from the date of this letter. Include in the appeal your reasons for reconsideration, and attach a copy of this letter. You may also submit your appeal on line at the Air Force’s Public Access Link: <https://efoia.milcloud.mil/App/PalLogin.aspx>.

You may contact the Air Force FOIA Public Liaison Officer, Ms. Anh Trinh, concerning this final response at Air Force FOIA Public Liaison Office, 1800 Air Force Pentagon, Washington, DC 20330-1800 or [usaf.pentagon.saf-cio-a6.mbx.af-foia@mail.mil](mailto:usaf.pentagon.saf-cio-a6.mbx.af-foia@mail.mil)/ or (703) 614-8500. You

may also seek dispute resolution services from the Office of Government Information Services, and can find information on this Office at <https://ogis.archives.gov/mediation-program/request-assistance.htm>. Using the dispute resolution services, will not affect your appeal rights.

The FOIA provides for the collection of fees based on the costs of processing a FOIA request and your fee category. In this case, we assessed no fees for processing this request.

Direct questions to the Edwards AFB FOIA mailbox at [s533c5@us.af.mil](mailto:s533c5@us.af.mil) or call 661-277-3015 and reference FOIA case number 2020-00428-F.


Sincerely,

KIRK L. REAGAN, Col, USAF  
Vice Commander, 412th Test Wing

Attachment:  
Responsive Records (61 pages)

This document is made available through the declassification efforts  
and research of John Greenewald, Jr., creator of:

# The Black Vault



The Black Vault is the largest online Freedom of Information Act (FOIA)  
document clearinghouse in the world. The research efforts here are  
responsible for the declassification of hundreds of thousands of pages  
released by the U.S. Government & Military.

**Discover the Truth** at: <http://www.theblackvault.com>

<b>AWARD / CONTRACT</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350) <input checked="" type="checkbox"/>		RATING DO-A2		PAGE 1 of 29	
2. CONTRACT (PROC. INST. IDENT.) NO. F04611-99-C-0025		3. EFFECTIVE DATE 1998 OCT 22		4. REQUISITION / PURCHASE REQUEST / PROJECT NO. See Schedule			
5. ISSUED BY AFFTC/PKAE DIRECTORATE OF CONTRACTING 5 SOUTH WOLFE AVE EDWARDS AFB CA 93524-1185  MARTIN J. BACA 805.277.3900 X2278		CODE FA9300		6. ADMINISTERED BY (IF OTHER THAN ITEM 5) CODE FA9300 AFFTC/PKM 10 SOUTH SELLER AVENUE EDWARDS AFB CA 93524-1088  EFT: T SCD: C PAS: (NONE)			
7. NAME AND ADDRESS OF CONTRACTOR (NO., STREET, CITY, COUNTY, STATE AND ZIP CODE) ERC, INCORPORATED 1940 ELK RIVER DAM RD., PO BOX 937 TULLAHOMA TN 37388 (931) 455-9915				<b>DISTRIBUTED</b>  <b>OCT 22 1998 (b)(6)</b>		8. DELIVERY <input type="checkbox"/> FOB Origin <input checked="" type="checkbox"/> Other (see below)	
CAGE CODE 0E2X3		FACILITY CODE		9. DISCOUNT FOR PROMPT PAYMENT N			
11. SHIP TO / MARK FOR CODE See Section F		12. PAYMENT WILL BE MADE BY CODE F72300 DFAS-SB OPERATING LOCATION 1111 EAST MILL ST SAN BERNARDINO CA 92408-1621		10. SUBMIT INVOICES (4 COPIES UNLESS OTHERWISE SPECIFIED) TO THE ADDRESS SHOWN IN ITEM See Block 12			
13. AUTHORITY FOR OTHER THAN FULL AND OPEN COMPETITION				14. ACCOUNTING AND APPROPRIATION DATA See Section G			
15A. ITEM NO See Section B		15B. SUPPLIES/SERVICES		15C. QUANTITY		15D. UNIT	15E. UNIT PRICE
							15F. AMOUNT
15G. TOTAL AMOUNT OF CONTRACT						\$18,509,547.00	
<b>16. Table of Contents</b>							
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
√	A	SOLICITATION/CONTRACT FORM	1	√	I	CONTRACT CLAUSES	12
√	B	SUPPLIES OR SERVICES AND PRICES/COSTS	2	PART III - LIST OF DOCUMENTS, EXHIBITS & ATTACHMENTS			
√	C	DESCRIPTION/SPECS./WORK STATEMENT	8	√	J	LIST OF ATTACHMENTS	29
√	D	PACKAGING AND MARKING	8	PART IV - REPRESENTATIONS AND INSTRUCTIONS			
√	E	INSPECTION AND ACCEPTANCE	8		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
√	F	DELIVERIES OR PERFORMANCE	9		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
√	G	CONTRACT ADMINISTRATION DATA	10		M	EVALUATION FACTORS FOR AWARD	
√	H	SPECIAL CONTRACT REQUIREMENTS	12				
<b>CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE</b>							
17. <input type="checkbox"/> <b>Contractor's Negotiated Agreement</b> (Contractor is required to sign this document and return copies to issuing office). Contractor agrees to furnish and deliver all items or perform all 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 checked="" type="checkbox"/> <b>Award</b> (Contractor is not required to sign this document). Your offer on solicitation number F04611-98-R-0025 including the additions or changes made by you which additions or changes set forth in full above, is hereby accepted as to items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.			
19A. NAME AND TITLE OF SIGNER (TYPE OR PRINT)				20A. NAME OF CONTRACTING OFFICER LILIANA J. RICHWINE			
19B. Name of Contractor  by _____ (signature of person authorized to sign)		19C. Date Signed		20B. United States of America (b)(6) by _____ (signature of Contracting Officer)		20C. Date Signed  22 Oct 98	

PART I - THE SCHEDULE  
SECTION B

SUPPLIES OR SERVICES AND PRICES/COST  
F04611-99-C-0025

<u>ITEM</u>	<u>SERVICE</u>	<u>TOTAL AMOUNT</u>
0001		\$14,677,479

service: TECHNICAL EFFORT

acrn: 9 contract type: U - COST PLUS FIXED FEE  
completion date: 30 SEP 2003

security: UNCLASSIFIED

item project mgr.: FY1519

descriptive data:

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SERVICES AND SUPPLIES TO ACCOMPLISH THE CONTRACT WORK CALLED FOR IN ACCORDANCE WITH THE STATEMENT OF WORK (SOW), ATTACHMENT 1, LOCATED IN SECTION J HEREOF.

<u>ITEM</u>	<u>SERVICE</u>	<u>TOTAL AMOUNT</u>
000101		

service: FUNDING INFO ONLY

acrn: AA

descriptive data:

DESCRIPTIVE DATA:

OBLIGATION AMOUNT ON ACRN AA: \$79,297

TOTAL CUMULATIVE FUNDING TO DATE: \$79,297

<u>ITEM</u>	<u>SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
0002		1	LO	\$3,832,068	\$3,832,068

noun: REIMBURSABLE ITEMS

acrn: 9 contract type: S - COST REIMBURSEMENT

security: UNCLASSIFIED fob: DESTINATION inspection: DESTINATION acceptance: DESTINATION stock number(nsn): N - NOT APPLICABLE

Item project mgr.: FY1519

descriptive data:

THE CONTRACTOR SHALL FURNISH ALL REIMBURSABLE ITEMS TO ACCOMPLISH THE WORK CALLED FOR IN ACCORDANCE WITH THE SOW, ATTACHMENT 1, LOCATED IN SECTION J HEREOF.

REIMBURSABLE ITEMS INCLUDE: MATERIALS/SUPPLIES, SUBCONTRACT COSTS, TRAVEL AND OTHER DIRECT COSTS (ODCS). ALL REIMBURSABLE ITEMS ARE NON-FEE BEARING.

F04611-99-C-0025

<u>ITEM</u>	<u>SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
000201					

noun: FUNDING INFO ONLY

acrn: AA

descriptive data:

OBLIGATION AMOUNT ON ACRN AA: \$20,703

TOTAL CUMULATIVE FUNDING TO DATE: \$20,703

<u>ITEM</u>	<u>SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
0003		1	LO	NSP	NSP

noun: DD 1423-1, EXHIBIT A, NON-DD250 DATA

acrn: U contract type: U - COST PLUS FIXED FEE

security: UNCLASSIFIED fob: DESTINATION inspection: DESTINATION acceptance: DESTINATION stock number(nsn): N - NOT APPLICABLE

item project mgr.: FY1519

descriptive data:

THE CONTRACTOR SHALL FURNISH DATA IN ACCORDANCE WITH THE CONTRACT DATA REQUIREMENTS LIST, DD FORM 1423-1, (CDRL ITEMS A001 - A006) ATTACHED HERETO AS EXHIBIT A. THE PRICE FOR THESE ITEMS IS INCLUDED IN CLIN 0001.

<u>ITEM</u>	<u>SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
0004		1	LO	NSP	NSP

noun: DD 1423-1, EXHIBIT B, DD 250 DATA

acrn: U contract type: U - COST PLUS FIXED FEE

security: UNCLASSIFIED fob: DESTINATION inspection: DESTINATION acceptance: DESTINATION stock number(nsn): N - NOT APPLICABLE

item project mgr.: FY1519

descriptive data:

THE CONTRACTOR SHALL FURNISH DATA IN ACCORDANCE WITH EXHIBIT B, CONTRACT DATA REQUIREMENTS LIST, DD FORM 1423-1, (CDRL ITEM B001) ATTACHED HERETO AS EXHIBIT B. THE PRICE OF THIS ITEM IS INCLUDED IN CLIN 0001.

ITEM    OPTION1 - SERVICE  
0005

TOTAL AMOUNT

service:    OPTION 1 - TECHNICAL EFFORT

acrn:    9            contract type:    U  
completion date:    30 SEP 05

security:    U-UNCLASSIFIED

item project mgr.:    FY1519

descriptive data:  
EXTENDS CLIN 0001 FOR A TWO-YEAR PERIOD.

OPTION AMOUNT:    \$ 6,546,787

ITEM    OPTION 1 - SUPPLIES/SERVICE            QTY    UNIT    UNIT PRICE            TOTAL AMOUNT  
0006

noun:    OPTION 1 - REIMBURSABLE ITEMS

acrn:    9            contract type:    S - COST

security:            fob:            inspection:            acceptance:            stock number(nsn):  
U-UNCLASSIFIED    DESTINATION    DESTINATION            DESTINATION            N - NOT APPLICABLE

item project mgr.:    FY1519

descriptive data:  
EXTENDS CLIN 0002 FOR A TWO-YEAR PERIOD.

OPTION AMOUNT:    \$ 1,532,520

ITEM    OPTION 1 - SUPPLIES/SERVICE            QTY    UNIT    UNIT PRICE            TOTAL AMOUNT  
0007

noun:    OPTION 1 - DD 1423-1, EXHIBIT A, NON-DD250 DATA

acrn:    U            contract type:    U - COST PLUS FIXED FEE

security:            fob:            inspection:            acceptance:            stock number(nsn):  
U-UNCLASSIFIED    DESTINATION    DESTINATION            DESTINATION            N - NOT APPLICABLE

item project mgr.:    FY1519

descriptive data:  
EXTENDS CLIN 0003 FOR A TWO-YEAR PERIOD.

OPTION AMOUNT:    \$ NSP

<u>ITEM</u>	<u>OPTION 1 - SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
-------------	------------------------------------	------------	-------------	-------------------	---------------------

0008

noun: OPTION 1 - DD 1423-1, EXHIBIT B, DD 250 DATA

acrn: U contract type: U - COST PLUS FIXED FEE

security: fob: inspection: acceptance: stock number(nsn):  
 U-UNCLASSIFIED DESTINATION DESTINATION DESTINATION N - NOT APPLICABLE

item project mgr.: FY1519

descriptive data:  
 EXTENDS CLIN 0004 FOR A TWO-YEAR PERIOD.

OPTION AMOUNT: \$ NSP

<u>ITEM</u>	<u>OPTION 2 - SERVICE</u>	<u>TOTAL AMOUNT</u>
-------------	---------------------------	---------------------

0009

service: OPTION 2 - TECHNICAL EFFORT

acrn: 9 contract type: U - COST PLUS FIXED FEE  
 completion date: 30 SEP 07

security: U-UNCLASSIFIED

item project mgr.: FY1519

descriptive data:  
 EXTENDS CLIN 0001 FOR A TWO-YEAR PERIOD.

OPTION AMOUNT: \$ 6,973,980

<u>ITEM</u>	<u>OPTION 2 - SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
-------------	------------------------------------	------------	-------------	-------------------	---------------------

0010

noun: OPTION 2 - REIMBURSABLE ITEMS

acrn: 9 contract type: S - COST

security: fob: inspection: acceptance: stock number(nsn):  
 U-UNCLASSIFIED DESTINATION DESTINATION DESTINATION N - NOT APPLICABLE

item project mgr.: FY1519

descriptive data:  
 EXTENDS CLIN 0002 FOR A TWO-YEAR PERIOD.

OPTION AMOUNT: \$ 1,532,353



<u>ITEM</u>	<u>OPTION 2 - SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
0011					

noun: OPTION 2 - DD 1423-1, EXHIBIT A, NON-DD250 DATA

acrn: U contract type: U - COST PLUS FIXED FEE

security: fob: inspection: acceptance: stock number(nsn):  
 U-UNCLASSIFIED DESTINATION DESTINATION DESTINATION N - NOT APPLICABLE

item project mgr.: FY1519

descriptive data:  
 EXTENDS CLIN 0003 FOR A TWO-YEAR PERIOD.

OPTION AMOUNT: \$ NSP

<u>ITEM</u>	<u>OPTION 2 - SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
0012					

noun: OPTION 2 - DD 1423-1, EXHIBIT B, DD 250 DATA

acrn: U contract type: U - COST PLUS FIXED FEE

security: fob: inspection: acceptance: stock number(nsn):  
 U-UNCLASSIFIED DESTINATION DESTINATION DESTINATION N - NOT APPLICABLE

item project mgr.: FY1519

descriptive data:  
 EXTENDS CLIN 0004 FOR A TWO-YEAR PERIOD.

OPTION AMOUNT: \$ NSP

TOTAL FOR BASIC PERIOD:	\$	<u>18,509,547</u>
TOTAL FOR OPTION 1 PERIOD:	\$	<u>8,079,307</u>
TOTAL FOR OPTION 2 PERIOD:	\$	<u>8,506,333</u>
TOTAL FOR ALL PERIODS:	\$	<u><u>35,095,187</u></u>

**A. AIR FORCE MATERIEL COMMAND FAR CONTRACT CLAUSES IN FULL TEXT**

**1. 5352.216-9001 PAYMENT OF FEE (AFMC) (CPFF) (JUL 1997)**

The estimated cost and fee for this contract are shown below. The applicable fixed fee or target fee set forth below may be increased or decreased only by negotiation and modification of the contract for added or deleted work. As determined by the contracting officer, it shall be paid as it accrues, in regular installments based upon the percentage of completion of work (or the expiration of the agreed-upon period(s) for term contracts).

	<b>BASIC</b>	<b>OPTION 1</b>	<b>OPTION 2</b>
Estimated Cost:	\$ <u>13,846,678</u>	\$ <u>6,176,214</u>	\$ <u>6,579,227</u>
Fixed Fee:	\$ <u>830,801</u>	\$ <u>370,573</u>	\$ <u>394,753</u>
Total Estimated Cost & Fixed Fee:	\$ <u>14,677,479</u>	\$ <u>6,546,787</u>	\$ <u>6,973,980</u>

Applicable to following Line Items: 0001 and Option Line Items 0005 and 0009.

**2. 5352.232-9001 IMPLEMENTATION OF LIMITATION OF FUNDS (AFMC) (JUL 1997)**

(a) The sum allotted to this contract and available for payment of costs under CLINS 0001 through 0004 in accordance with the clause in Section I entitled "Limitation of Funds" is \$95,511. This sum is estimated to cover the work hereunder until the 13th day of November 1998.

(b) In addition to the amount allotted under the "Limitation of Funds" clause, the additional amount of \$4,489 is obligated for payment of fee for work completed under CLINS 0001, 0003 and 0004. This sum is estimated to cover the work hereunder until the 13th day of November 1998.

**B. ADMINISTRATIVE AND ONE-TIME-USE CLAUSES IN FULL TEXT**

**1. -B3 INVOICE SUBMISSION (JUN 1998)**

In addition to sending invoices in accordance with SF 33, Block 23, send a copy of the invoice to:

**AFRL/PRSP, Attn: Carl Ousley, 10 East Saturn Blvd, Edwards AFB CA 93524-7680**

**2. -B4 CLAUSES AND PROVISIONS (FEB 1998)**

(a) Clauses and provisions from the Federal Acquisition Regulation (FAR) and supplements thereto are incorporated in this document by reference and in full text. Those incorporated by reference have the same force and effect as if they were given in full text.

(b) Clauses and provisions in this document will be numbered in sequence, but will not necessarily appear in consecutive order.

(c) Section K is deemed to be incorporated, by reference, in this award.

**A. ADMINISTRATIVE AND ONE-TIME-USE CLAUSES IN FULL TEXT**

**1. C001 WORK DESCRIPTION/SPECIFICATION (MAY 1997)**

Work called for by the contract line items specified in SECTION B shall be performed in accordance with the following:

CONTRACT LINE ITEM NUMBERS (CLINs)  
All.

DESCRIPTION/SPECIFICATIONS  
The contractor shall provide all supplies and services in accordance with the Statement of Work, dated 15 Jun 98, and located in Section J hereto at Attachment 1.

(No clauses or provisions apply to this section.)

**A. NOTICE:** The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

**I. FEDERAL ACQUISITION REGULATION CONTRACT CLAUSES**

52.246-09 INSPECTION OF RESEARCH AND DEVELOPMENT (SHORT FORM) (APR 1984)

**II. DEFENSE FEDERAL ACQUISITION REGULATION SUPPLEMENT CONTRACT CLAUSES**

252.246-7000 MATERIAL INSPECTION AND RECEIVING REPORT (DEC 1991)

**A. ADMINISTRATIVE AND ONE-TIME-USE CLAUSES IN FULL TEXT**

**1. E007 INSPECTION AND ACCEPTANCE AUTHORITY (APR 1998)**

Inspection and acceptance for all Contract and Exhibit Lines or Subline Items shall be accomplished by the Program Manager, AFRL/PRSP, 10 East Saturn Blvd, Edwards AFB CA 93524-7680.

PART I - THE SCHEDULE  
SECTION F

DELIVERIES OR PERFORMANCE  
F04611-99-C-0025

<u>ITEM</u>	<u>QTY</u>	<u>SHIP TO</u>	<u>MARK FOR</u>	<u>TRANS</u> <u>PRI</u>	<u>DATE</u>
0002	1	FY1519			ASREQ

noun: REIMBURSABLE ITEMS

acrn: 9 security: U-UNCLASSIFIED

descriptive data:  
THE DELIVERY DATES FOR THE REIMBURSABLE ITEMS WILL BE AS REQUIRED.

MARK FOR: F04611-99-C-0025

<u>ITEM</u>	<u>QTY</u>	<u>SHIP TO</u>	<u>MARK FOR</u>	<u>TRANS</u> <u>PRI</u>	<u>DATE</u>
0003	1	FY1519			ASREQ

noun: DD 1423-1, EXHIBIT A, NON-DD250 DATA

acrn: U security: U-UNCLASSIFIED

descriptive data:  
THE SCHEDULED DELIVERY DATES FOR THE NON-DD250 DATA SHALL BE IN ACCORDANCE WITH EXHIBIT A, ITEMS A001 - A006.

MARK FOR: F04611-99-C-0025

<u>ITEM</u>	<u>QTY</u>	<u>SHIP TO</u>	<u>MARK FOR</u>	<u>TRANS</u> <u>PRI</u>	<u>DATE</u>
0004	1	1519			ASREQ

noun: DD 1423-1, EXHIBIT B, DD 250 DATA

acrn: U security: U-UNCLASSIFIED

descriptive data:  
THE SCHEDULED DELIVERY DATES FOR THE DD 250 DATA SHALL BE IN ACCORDANCE WITH EXHIBIT B, ITEM B001.

MARK FOR: F04611-99-C-0025

**A. NOTICE:** The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

**I. FEDERAL ACQUISITION REGULATION CONTRACT CLAUSES**

52.242-15 STOP-WORK ORDER (AUG 1989) - ALTERNATE I (APR 1984)  
52.247-34 F.O.B. DESTINATION (NOV 1991)

F04611-99-C-0025

**A. AIR FORCE MATERIEL COMMAND FAR CONTRACT CLAUSES IN FULL TEXT**

**1. 5352.247-9000 COMMERCIAL BILL OF LADING SHIPMENTS-CARRIER'S RATES (AFMC) (JUL 1997)**

The Contractor shall ensure that proposed carrier's rates are equal to or better than rates available to the Government. Contact the transportation officer for this contract, as identified by the Administrative Contracting Officer, for confirmation that the proposed carrier's rates are no higher than those otherwise available to the Government. List the shipping costs on the invoice to the Government and attach a copy of the carrier's billing. Failure to properly annotate the invoice and provide a copy of the carrier's billing may result in those costs not being reimbursed or only partially reimbursed.

**B. ADMINISTRATIVE AND ONE-TIME-USE CLAUSES IN FULL TEXT**

**1. F001 OPTION CLIN PERFORMANCE PERIOD(S) (FEB 1998)**

The respective performance period(s) for option(s) identified in Section B is as follows:

CLIN Number	Period of Performance
0005 - 0008	1OCT03 THROUGH 30SEP05
0009 - 0012	1OCT05 THROUGH 30SEP07

**2. F002 PERIOD OF PERFORMANCE (FEB 1997)**

Period of performance under this contract shall be 22 Oct 98 through 30 Sep 03 for the basic contract period. The transition period shall be 22 Oct 98 through 20 Nov 98.

<b>PART I - THE SCHEDULE</b>	<b>CONTRACT ADMINISTRATION DATA</b>
<b>SECTION G</b>	<b>F04611-99-C-0025</b>

<u>ACRN</u>	<u>OBLIGATION AMOUNT</u>
AA	\$100,000.00
On CLIN 000101:	\$79,297.00
On CLIN 000201:	\$20,703.00

fund cite: 5783600 298 47C3 621011 E23001 584DH 62601F 672300 F72300  
purchase request: FY151987400246A1  
descriptive data: See paragraph G005 below for payment instructions.

**A. AIR FORCE FEDERAL ACQUISITION REGULATION SUPPLEMENT CONTRACT CLAUSES IN FULL TEXT**

**1. 5352.232-9000 REMITTANCE ADDRESS (MAY 1996)**

If the remittance address is different from the mailing address, enter the remittance address below. Failure to provide this information may impact payment.

**ERC, INC.  
555 SPARKMAN DRIVE, SUITE 1622  
HUNTSVILLE AL 35816**

**B. AIR FORCE MATERIEL COMMAND FAR CONTRACT CLAUSES IN FULL TEXT**

**1. 5352.237-9002 CONTRACT HOLIDAYS (AFMC) (JUL 1997)**

(a) The prices/costs in Section B of the contract include holiday observances; accordingly, the Government will

**F04611-99-C-0025**

not be billed for such holidays, except when services are required by the Government and are actually performed on a holiday. Holidays in addition to those reflected in this contract, which are designated by the Government, will be billable provided the assigned Contractor employee was available for performance and was precluded from such performance.

(b) The following days are contract holidays:

**New Year's Day  
Martin Luther King Jr.'s Birthday  
President's Day  
Memorial Day  
Independence Day  
Labor Day  
Columbus Day  
Veteran's Day  
Thanksgiving Day  
Christmas Day**

**C. ADMINISTRATIVE AND ONE-TIME-USE CLAUSES IN FULL TEXT**

**1. G005 PAYMENT INSTRUCTIONS FOR MULTIPLE ACCOUNTING CLASSIFICATION CITATIONS (FEB 1997)**

Payment for all effort under this contract should be made in the order and amounts shown in the informational subline(s) in Section B, CLIN 0001 and CLIN 0002 of the contract and recapped below. Disperse the funds in each ACRN before using funds from the next listed ACRN. This is a multiple funded requirement. Additional ACRNs will be assigned and payment instructions revised when new accounting classifications are available.

INFO SUBCLIN	ACRN	PREVIOUS ACRN OBLIGATION	CHANGE IN OBLIGATION	CUMULATIVE ACRN OBLIGATION
000101	AA	\$0.00	\$79,297 +	\$79,297
000201	AA	\$79,297.00	\$20,703 +	\$100,000

TOTAL CUMULATIVE CONTRACT FUNDING: \$100,000

**2. G006 INVOICE AND PAYMENT - COST REIMBURSEMENT (FEB 1997)**

Invoices (or public vouchers), supported by a statement of cost for performance under this contract, shall be submitted to the cognizant Defense Contract Audit Agency (DCAA) office. Under the provisions of DFARS 242.803(b), the DCAA auditor, is designated as the authorized representative of the contracting officer (CO) for examining vouchers received directly from the contractor.

**3. G014 FINAL PATENT REPORT (OCT 1997)**

In accordance with 5327.305-3(b)90, the Administrative Contracting Officer shall forward the final patent report (e.g., DD Form 882, Report of Inventions and Subcontracts) and any related information to

**AFRL/PROI (STINFO)  
2 Draco Drive  
Edwards AFB CA 93524-7800 .**

**A. ADMINISTRATIVE AND ONE-TIME-USE CLAUSES IN FULL TEXT**

**1. H011 GUARANTEED FINAL REPORT (FEB 1997)**

If this contract is terminated prior to completion, the Contractor agrees to provide a final report in accordance with Exhibit A, Data Item B001 . During the life of the contract, the contractor shall continuously reserve sufficient funds from the amount allotted to guarantee the preparation and delivery of said final report.

Contract Clauses in this section are from the FAR, Defense FAR Sup, Air Force FAR Sup, and the Air Force Materiel Command FAR Sup, and are current through the following updates:

FAR: FAC 97-05; DFAR: DAC 91-13; AFFAR: 1996 Edition; AFMCFAR: 1997 Edition; AFAC: AFAC 96-1;  
DL.: through DL 98-017; Class Deviations: through CD 98-O0008; IPN: 98-009;

A. **NOTICE:** The following solicitation provisions and/or contract clauses pertinent to this section are hereby incorporated by reference:

**I. FEDERAL ACQUISITION REGULATION CONTRACT CLAUSES**

52.202-01	DEFINITIONS (OCT 1995)
52.203-03	GRATUITIES (APR 1984)
52.203-05	COVENANT AGAINST CONTINGENT FEES (APR 1984)
52.203-06	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT (JUL 1995) -
52.203-07	ANTI-KICKBACK PROCEDURES (JUL 1995)
52.203-08	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY (JAN 1997)
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (JUN 1997)
52.204-02	SECURITY REQUIREMENTS (AUG 1996)
52.204-04	PRINTING/COPYING DOUBLE-SIDED ON RECYCLED PAPER (JUN 1996)
52.208-08	HELIUM REQUIREMENT FORECAST AND REQUIRED SOURCES FOR HELIUM (JUN 1997)
52.209-06	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT (JUL 1995)
52.211-05	MATERIAL REQUIREMENTS (OCT 1997)
52.211-15	DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS (SEP 1990)
52.215-02	AUDIT AND RECORDS -- NEGOTIATION (AUG 1996)
52.215-08	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT (OCT 1997)
52.215-11	PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA--MODIFICATIONS (OCT 1997)
52.215-13	SUBCONTRACTOR COST OR PRICING DATA--MODIFICATIONS (OCT 1997)
52.215-14	INTEGRITY OF UNIT PRICES (OCT 1997)
52.215-15	TERMINATION OF DEFINED BENEFIT PENSION PLANS (OCT 1997)
52.215-17	WAIVER OF FACILITIES CAPITAL COST OF MONEY (OCT 1997)

52.215-18 REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS (OCT 1997)

52.215-19 NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)

52.215-21 REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA--MODIFICATIONS (OCT 1997) - ALTERNATE II (OCT 1997)

52.216-07 ALLOWABLE COST AND PAYMENT (APR 1998)

52.216-08 FIXED FEE (MAR 1997)

52.217-09 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 1989)  
 Para (a), Period of time is '30 days'  
 Para (c), Number of months or years is '9.5 years'

52.219-06 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE (JUL 1996)

52.219-08 UTILIZATION OF SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS CONCERNS (JUN 1997)

52.219-14 LIMITATIONS ON SUBCONTRACTING (DEC 1996)

52.222-02 PAYMENT FOR OVERTIME PREMIUMS (JUL 1990)  
 Para (a), Dollar amount is '\$0.00'

52.222-03 CONVICT LABOR (AUG 1996)

52.222-20 WALSH-HEALEY PUBLIC CONTRACTS ACT (DEC 1996)

52.222-26 EQUAL OPPORTUNITY (APR 1984)

52.222-35 AFFIRMATIVE ACTION FOR DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (APR 1998)

52.222-36 AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES (JUN 1998)

52.222-37 EMPLOYMENT REPORTS ON DISABLED VETERANS AND VETERANS OF THE VIETNAM ERA (APR 1998)

52.223-02 CLEAN AIR AND WATER (APR 1984)

52.223-05 POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (APR 1998)

52.223-06 DRUG-FREE WORKPLACE (JAN 1997)

52.223-14 TOXIC CHEMICAL RELEASE REPORTING (OCT 1996)

52.225-10 DUTY-FREE ENTRY (APR 1984)

52.225-11 RESTRICTIONS ON CERTAIN FOREIGN PURCHASES (AUG 1998)

52.227-01 AUTHORIZATION AND CONSENT (JUL 1995) - ALTERNATE I (APR 1984)

52.227-02 NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT (AUG 1996)

52.227-10 FILING OF PATENT APPLICATIONS -- CLASSIFIED SUBJECT MATTER (APR 1984)

52.227-11 PATENT RIGHTS -- RETENTION BY THE CONTRACTOR (SHORT FORM) (JUN 1997)

52.228-07 INSURANCE -- LIABILITY TO THIRD PERSONS (MAR 1996)

52.232-17 INTEREST (JUN 1996)

52.232-18 AVAILABILITY OF FUNDS (APR 1984)

52.232-22 LIMITATION OF FUNDS (APR 1984)

52.232-23 ASSIGNMENT OF CLAIMS (JAN 1986) - ALTERNATE I (APR 1984)

52.232-25 PROMPT PAYMENT (JUN 1997)

52.232-33 MANDATORY INFORMATION FOR ELECTRONIC FUNDS TRANSFER PAYMENT (AUG 1996)

52.233-01 DISPUTES (OCT 1995) - ALTERNATE I (DEC 1991)

52.233-03 PROTEST AFTER AWARD (AUG 1996) - ALTERNATE I (JUN 1985)

52.237-02 PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT AND VEGETATION (APR 1984)

52.242-01 NOTICE OF INTENT TO DISALLOW COSTS (APR 1984)

52.242-03 PENALTIES FOR UNALLOWABLE COSTS (OCT 1995)

52.242-04 CERTIFICATION OF FINAL INDIRECT COSTS (JAN 1997)

52.242-13 BANKRUPTCY (JUL 1995)

52.243-02 CHANGES -- COST-REIMBURSEMENT (AUG 1987) - ALTERNATE V (APR 1984)

52.243-06 CHANGE ORDER ACCOUNTING (APR 1984)

52.243-07 NOTIFICATION OF CHANGES (APR 1984)  
 Para (b), Number of calendar days is '30'  
 Para (d), Number of calendar days is '60'



52.244-02 SUBCONTRACTS (AUG 1998) - ALTERNATE I (AUG 1998)  
 Para (k), Paragraphs (d) and (f) of this clause to not apply to the following subcontracts which were evaluated during negotiations: 'None.'

52.244-05 COMPETITION IN SUBCONTRACTING (DEC 1996)

52.245-01 PROPERTY RECORDS (APR 1984)

52.245-05 GOVERNMENT PROPERTY (COST-REIMBURSEMENT, TIME-AND-MATERIAL, OR LABOR-HOUR CONTRACTS) (JAN 1986)

52.246-25 LIMITATION OF LIABILITY -- SERVICES (FEB 1997)

52.247-01 COMMERCIAL BILL OF LADING NOTATIONS (APR 1984)

52.249-06 TERMINATION (COST-REIMBURSEMENT) (SEP 1996)

52.249-14 EXCUSABLE DELAYS (APR 1984)

52.251-01 GOVERNMENT SUPPLY SOURCES (APR 1984)

52.253-01 COMPUTER GENERATED FORMS (JAN 1991)

## **II. DEFENSE FEDERAL ACQUISITION REGULATION SUPPLEMENT CONTRACT CLAUSES**

252.201-7000 CONTRACTING OFFICER'S REPRESENTATIVE (DEC 1991)

252.203-7001 SPECIAL PROHIBITION ON EMPLOYMENT (JUN 1997)

252.203-7002 DISPLAY OF DOD HOTLINE POSTER (DEC 1991)

252.204-7000 DISCLOSURE OF INFORMATION (DEC 1991)

252.204-7002 PAYMENT FOR SUBLINE ITEMS NOT SEPARATELY PRICED (DEC 1991)

252.204-7003 CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT (APR 1992)

252.204-7004 REQUIRED CENTRAL CONTRACTOR REGISTRATION (MAR 1998)

252.205-7000 PROVISION OF INFORMATION TO COOPERATIVE AGREEMENT HOLDERS (DEC 1991)

252.209-7000 ACQUISITION FROM SUBCONTRACTORS SUBJECT TO ON-SITE INSPECTION UNDER THE INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY (NOV 1995)

252.209-7004 SUBCONTRACTING WITH FIRMS THAT ARE OWNED OR CONTROLLED BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

252.215-7000 PRICING ADJUSTMENTS (DEC 1991)

252.223-7002 SAFETY PRECAUTIONS FOR AMMUNITION AND EXPLOSIVES (MAY 1994)

252.223-7003 CHANGE IN PLACE OF PERFORMANCE -- AMMUNITION AND EXPLOSIVES (DEC 1991)

252.223-7004 DRUG-FREE WORK FORCE (SEP 1988)

252.223-7006 PROHIBITION ON STORAGE AND DISPOSAL OF TOXIC AND HAZARDOUS MATERIALS (APR 1993)

252.225-7001 BUY AMERICAN ACT AND BALANCE OF PAYMENTS PROGRAM (MAR 1998)

252.225-7002 QUALIFYING COUNTRY SOURCES AS SUBCONTRACTORS (DEC 1991)

252.225-7008 SUPPLIES TO BE ACCORDED DUTY-FREE ENTRY (MAR 1998)

252.225-7009 DUTY-FREE ENTRY--QUALIFYING COUNTRY SUPPLIES (END PRODUCTS AND COMPONENTS) (MAR 1998)

252.225-7010 DUTY-FREE ENTRY--ADDITIONAL PROVISIONS (MAR 1998)

252.225-7012 PREFERENCE FOR CERTAIN DOMESTIC COMMODITIES (SEP 1997)

252.225-7014 PREFERENCE FOR DOMESTIC SPECIALTY METALS (MAR 1998) - ALTERNATE I (MAR 1998)

252.225-7016 RESTRICTION ON ACQUISITION OF BALL AND ROLLER BEARINGS (FEB 1998)

252.225-7025 RESTRICTION ON ACQUISITION OF FORGINGS (JUN 1997)

252.225-7026 REPORTING OF CONTRACT PERFORMANCE OUTSIDE THE UNITED STATES (MAR 1998)

252.225-7031 SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 1992)

252.225-7043 ANTITERRORISM/FORCE PROTECTION POLICY FOR DEFENSE CONTRACTORS OUTSIDE THE UNITED STATES (JUN 1998)

252.227-7013 RIGHTS IN TECHNICAL DATA--NONCOMMERCIAL ITEMS (NOV 1995)

252.227-7016 RIGHTS IN BID OR PROPOSAL INFORMATION (JUN 1995)

252.227-7030 TECHNICAL DATA--WITHHOLDING OF PAYMENT (OCT 1988)

252.227-7034 PATENTS--SUBCONTRACTS (APR 1984)

252.227-7036 DECLARATION OF TECHNICAL DATA CONFORMITY (JAN 1997)

252.227-7037 VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA (NOV 1995)

- 252.227-7039 PATENTS--REPORTING OF SUBJECT INVENTIONS (APR 1990)  
 252.231-7000 SUPPLEMENTAL COST PRINCIPLES (DEC 1991)  
 252.232-7009 PAYMENT BY ELECTRONIC FUNDS TRANSFER (CCR) (JUN 1998)  
 252.235-7010 ACKNOWLEDGMENT OF SUPPORT AND DISCLAIMER (MAY 1995)  
 Para (a), name of contracting agency(ies): 'Directorate of Contracting, 5 South Wolfe Ave, Edwards AFB, CA 93524-1185.'  
 Para (a), contract number(s): 'F04611-99-C-0025.'  
 Para (b), name of contracting agency(ies): 'Directorate of Contracting, 5 South Wolfe Ave, Edwards AFB, CA 93524-1185.'
- 252.235-7011 FINAL SCIENTIFIC OR TECHNICAL REPORT (MAY 1995)  
 252.242-7000 POSTAWARD CONFERENCE (DEC 1991)  
 252.242-7004 MATERIAL MANAGEMENT AND ACCOUNTING SYSTEM (SEP 1996)  
 252.243-7002 REQUESTS FOR EQUITABLE ADJUSTMENT (MAR 1998)  
 252.245-7001 REPORTS OF GOVERNMENT PROPERTY (MAY 1994)
- 252.251-7000 ORDERING FROM GOVERNMENT SUPPLY SOURCES (MAY 1995)

Para (f), Contractor's billing address is: ERC, Inc.  
555 Sparkman Drive, Suite 1622  
Huntsville, AL 35816

Para (f), Government remittance address is: To be included in Authorization's to Purchase from Government Supply Sources (reference DFARS 251.102 (e)).

**A. FEDERAL ACQUISITION REGULATION CONTRACT CLAUSES IN FULL TEXT**

**1. 52.217-8 OPTION TO EXTEND SERVICES (AUG 1989)**

The Government may require continued performance of any services within the limits and at the rates specified in the contract. These rates may be adjusted only as a result of revisions to prevailing labor rates provided by the Secretary of Labor. The option provision may be exercised more than once, but the total extension of performance hereunder shall not exceed 6 months. The Contracting Officer may exercise the option by written notice to the Contractor at least 30 days before contract expiration.

**2. 52.222-21 PROHIBITION OF SEGREGATED FACILITIES (DEVIATION) (APR 1984)**

(a) "Segregated facilities," as used in this clause, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex or national origin because of written or oral policies, or employee custom. The term does not include separate or single-user rest rooms and necessary dressing or sleeping areas, which shall be provided to assure privacy between the sexes.

(b) The Contractor agrees that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Contractor agrees that a breach of this clause is a violation of the Equal Opportunity clause in this contract.

(c) The Contractor shall include this clause in every subcontract that contains the clause of this contract entitled "Equal Opportunity".

### 3. 52.222-26 EQUAL OPPORTUNITY (DEVIATION) (APR 1984)

(a) If, during any 12-month period (including the 12 months preceding the award of this contract), the Contractor has been or is awarded nonexempt Federal contracts and/or subcontracts that have an aggregate value in excess of \$10,000, the Contractor shall comply with subparagraphs (b)(1) through (11) below. Upon request, the Contractor shall provide information necessary to determine the applicability of this clause.

(b) During performing this contract, the Contractor agrees as follows:

(1) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Note: It shall not be a violation of E.O. 11246 for a contractor to extend a publicly announced preference in employment to Indians living on or near an Indian reservation in connection with employment opportunities on or near an Indian reservation. See 22.807(b)(4).

(2) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. This shall include, but not be limited to, (i) employment, (ii) upgrading, (iii) demotion, (iv) transfer, (v) recruitment or recruitment advertising, (vi) layoff or termination, (vii) rates of pay or other forms of compensation, and (viii) selection for training, including apprenticeship.

(3) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.

(4) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

(5) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.

(6) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.

(7) The Contractor shall furnish to the contracting agency all information required by Executive Order 11246, as amended, and by the rules, regulations, and orders of the Secretary of Labor. The Contractor shall, within 30 days following the award, file Standard Form 100 (EEO-1), or any successor form, unless filed within 12 months preceding the date of award.

(8) The Contractor shall permit access to its premises by the contracting officer or the Office of Federal Contract Compliance Programs (OFCCP) for the purpose of conducting on-site compliance reviews and inspecting such books, records, accounts, and other materials as may be relevant to an investigation to ascertain the Contractor's compliance with the applicable rules, regulations, and orders.

(9) If the OFCCP determines that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts, under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended; in the rules, regulations, and orders of the Secretary of Labor; or as otherwise provided by law.

(10) The Contractor shall include the terms and conditions of subparagraph (b)(1) through (11) of this clause in every subcontract or purchase order that is not exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor.

(11) The Contractor shall take such action with respect to any subcontract or purchase order as the contracting officer may direct as a means of enforcing these terms and conditions, including sanctions for noncompliance; provided, that if the Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of any direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

(c) Notwithstanding any other clause in this contract, disputes relative to this clause will be governed by the procedures in 41 CFR 60-1.1.

#### **4. 52.223-03 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997)**

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material Identification No.  
None

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(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.

#### **5. 52.223-11 OZONE-DEPLETING SUBSTANCES (JUN 1996)**

(a) Definition. "Ozone-depleting substance", as used in this clause, means any substance designated as Class I by the Environmental Protection Agency (EPA) (40 CFR Part 82), including but not limited to chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or any substance designated as Class II by EPA (40 CFR Part 82), 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).

#### **6. 52.244-06 SUBCONTRACTS FOR COMMERCIAL ITEMS AND COMMERCIAL COMPONENTS (APR 1998)**

(a) Definitions.

"Commercial item", as used in this clause, has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", as used in this clause, includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c) Notwithstanding any other clause of this contract, the Contractor is not required to include any FAR provision or clause, other than those listed below to the extent they are applicable and as may be required to establish the reasonableness of prices under Part 15, in a subcontract at any tier for commercial items or commercial components:

(1) 52.222-26, Equal Opportunity (E.O. 11246);

(2) 52.222-35, Affirmative Action for Disabled Veterans and Veterans of the Vietnam Era (38 U.S.C. 4212(a));

(3) 52.222-36, Affirmative Action for Handicapped Workers (29 U.S.C. 793); and

(4) 52.247-64, Preference for Privately-Owned U.S.-Flagged Commercial Vessels (46 U.S.C. 1241)(flow down not required for subcontracts awarded beginning May 1, 1996).

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

**7. 52.247-67 SUBMISSION OF COMMERCIAL TRANSPORTATION BILLS TO THE GENERAL SERVICES ADMINISTRATION FOR AUDIT (JUN 1997)**

(a)(1) In accordance with paragraph (a)(2) of this clause, the Contractor shall submit to the General Services Administration (GSA) for audit, legible copies of all paid freight bills/invoices, commercial bills of lading (CBL's), passenger coupons, and other supporting documents for transportation services on which the United States will assume freight charges that were paid (i) by the Contractor under a cost-reimbursement contract, and (ii) by a first-tier subcontractor under a cost-reimbursement subcontract thereunder.

(2) Cost-reimbursement Contractors shall only submit for audit those CBL's with freight shipment charges exceeding \$50.00. Bills under \$50.00 shall be retained on-site by the Contractor and made available for GSA on-site audits. This exception only applies to freight shipment bills and is not intended to apply to bills and invoices for any other transportation services.

(b) The Contractor shall forward copies of paid freight bills/invoices, CBL's, passenger coupons, and supporting documents as soon as possible following the end of the month, in one package to the General Services Administration, ATTN: FWA, 1800 F Street, NW., Washington DC 20405. The Contractor shall include the paid freight bills/invoices, CBL's, passenger coupons, and supporting documents for first-tier subcontractors under a cost-reimbursement contract. If the inclusion of the paid freight bills/invoices, CBL's, passenger coupons, and supporting documents for any subcontractor in the shipment is not practicable, the documents may be forwarded to GSA in a separate package.

(c) Any original transportation bills or other documents requested by GSA shall be forwarded promptly by the Contractor to GSA. The Contractor shall ensure that the name of the contracting agency is stamped or written on the face of the bill before sending it to GSA.

(d) A statement prepared in duplicate by the Contractor shall accompany each shipment of transportation documents. GSA will acknowledge receipt of the shipment by signing and returning the copy of the statement. The statement shall show--

(1) The name and address of the Contractor;

(2) The contract number including any alpha-numeric prefix identifying the contracting office;

(3) The name and address of the contracting office;

(4) The total number of bills submitted with the statement; and

(5) A listing of the respective amounts paid or, in lieu of such listing, an adding machine tape of the amounts paid showing the Contractor's voucher or check numbers.

**8. 52.252-02 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)**

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

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

**9. 52.252-06 AUTHORIZED DEVIATIONS IN CLAUSES (APR 1984)**

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

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

**B. DEFENSE FAR SUPP CONTRACT CLAUSES IN FULL TEXT**

**1. 252.247-7023 TRANSPORTATION OF SUPPLIES BY SEA (NOV 1995)**

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

(1) "Components" means articles, materials, and supplies incorporated directly into end products at any level of manufacture, fabrication, or assembly by the Contractor or any subcontractor.

(2) "Department of Defense" (DoD) means the Army, Navy, Air Force, Marine Corps, and defense agencies.

(3) "Foreign flag vessel" means any vessel that is not a U.S.-flag vessel.

(4) "Ocean transportation" means any transportation aboard a ship, vessel, boat, barge, or ferry through international waters.

(5) "Subcontractor" means a supplier, materialman, distributor, or vendor at any level below the prime contractor whose contractual obligation to perform results from, or is conditioned upon, award of the prime contract and who is performing any part of the work or other requirement of the prime contract. However, effective May 1, 1996, the term does not include a supplier, materialman, distributor, or vendor of commercial items or commercial components.

(6) "Supplies" means all property, except land and interests in land, that is clearly identifiable for eventual use by or owned by the DoD at the time of transportation by sea.

(i) An item is clearly identifiable for eventual use by the DoD if, for example, the contract documentation contains a reference to a DoD contract number or a military destination.

(ii) "Supplies" includes (but is not limited to) public works; buildings and facilities; ships; floating equipment and vessels of every character, type, and description, with parts, subassemblies, accessories, and equipment; machine tools; material; equipment; stores of all kinds; end items; construction materials; and components of the foregoing.

(7) "U.S.-flag vessel" means a vessel of the United States or belonging to the United States, including any vessel registered or having national status under the laws of the United States.

(b) The Contractor shall employ U.S.-flag vessels in the transportation by sea of any supplies to be furnished in the performance of this contract. The Contractor and its subcontractors may request that the Contracting Officer authorize shipment in foreign-flag vessels, or designate available U.S.-flag vessels, if the Contractor or a subcontractor believes that--

(1) U.S.-flag vessels are not available for timely shipment;

(2) The freight charges are inordinately excessive or unreasonable; or

(3) Freight charges are higher than charges to private persons for transportation of like goods.

(c) The Contractor must submit any request for use of other than U.S.-flag vessels in writing to the Contracting Officer at least 45 days prior to the sailing date necessary to meet its delivery schedules. The Contracting Officer will process requests submitted after such date(s) as expeditiously as possible, but the Contracting Officer's failure to grant approvals to meet the shipper's sailing date will not of itself constitute a compensable delay under this or any other clause of this contract. Requests shall contain at a minimum--

(1) Type, weight, and cube of cargo;

(2) Required shipping date;

(3) Special handling and discharge requirements;

(4) Loading and discharge points;

(5) Name of shipper and consignee;

(6) Prime contract number; and

(7) A documented description of efforts made to secure U.S.-flag vessels, including points of contact (with names and telephone numbers) with at least two U.S.-flag carriers contacted. Copies of telephone notes, telegraphic and facsimile message or letters will be sufficient for this purpose.

(d) The Contractor shall, within 30 days after each shipment covered by this clause, provide the Contracting Officer and the Division of National Cargo, Office of Market Development, Maritime Administration, U.S. Department of Transportation, Washington, DC 20590, one copy of the rated on board vessel operating carrier's ocean bill of lading, which shall contain the following information--

(1) Prime contract number;

(2) Name of vessel;

(3) Vessel flag of registry;

(4) Date of loading;

(5) Port of loading;

(6) Port of final discharge;

(7) Description of commodity;

(8) Gross weight in pounds and cubic feet if available;

(9) Total ocean freight in U.S. dollars; and

(10) Name of the steamship company.

(e) The Contractor agrees to provide with its final invoice under this contract a representation that to the best of its knowledge and belief--

(1) No ocean transportation was used in the performance of this contract;

(2) Ocean transportation was used and only U.S.-flag vessels were used for all ocean shipments under the contract;

(3) Ocean transportation was used, and the Contractor had the written consent of the Contracting Officer for all non-U.S.-flag ocean transportation; or



(4) Ocean transportation was used and some or all of the shipments were made on non-U.S.-flag vessels without the written consent of the Contracting Officer. The Contractor shall describe these shipments in the following format:

ITEM	CONTRACT	
DESCRIPTION	LINE ITEMS	QUANTITY

TOTAL

(f) If the final invoice does not include the required representation, the Government will reject and return it to the Contractor as an improper invoice for the purposes of the Prompt Payment clause of this contract. In the event there has been unauthorized use of non-U.S.-flag vessels in the performance of this contract, the Contracting Officer is entitled to equitably adjust the contract, based on the unauthorized use.

(g) The Contractor shall include this clause, including this paragraph (g) in all subcontracts under this contract, which exceed the simplified acquisition threshold in Part 13 of the Federal Acquisition Regulation.

## **2. 252.247-7024 NOTIFICATION OF TRANSPORTATION OF SUPPLIES BY SEA (NOV 1995)**

(a) The Contractor has indicated by the response to the solicitation provision, Representation of Extent of Transportation by Sea, that it did not anticipate transporting by sea any supplies. If, however, after the award of this contract, the Contractor learns that supplies, as defined in the Transportation of Supplies by Sea clause of this contract, will be transported by sea, the Contractor--

(1) Shall notify the Contracting Officer of that fact; and

(2) Hereby agrees to comply with all the terms and conditions of the Transportation of Supplies by Sea clause of this contract.

(b) The Contractor shall include this clause, including this paragraph (b), revised as necessary to reflect the relationship of the contracting parties, in all subcontracts hereunder, except (effective May 1, 1996) subcontracts for the acquisition of commercial items or components.

## **C. AIR FORCE FEDERAL ACQUISITION REGULATION SUPPLEMENT CONTRACT CLAUSES IN FULL TEXT**

### **1. 5352.204-9000 NOTIFICATION OF GOVERNMENT SECURITY ACTIVITY (MAY 1996)**

Thirty days before the date contractor operations will begin on base, the contractor shall notify the security police activity shown in the distribution block of the DD Form 254, DOD Contract Security Classification Specification, as to:

(a) The name, address, and telephone number of this contract company's representative and designated alternate in the U.S. or overseas area, as appropriate;

(b) The contract number and military contracting command;

(c) The highest classification category of defense information to which contractor employees will have access;

(d) The Air Force installations in the U.S. (in overseas areas, identify only the APO number(s)) where the contract work will be performed;

(e) The date contractor operations will begin on base in the U.S. or in the overseas area;

(f) The estimated completion date of operations on base in the U.S. or in the overseas area; and

F04611-99-C-0025

(g) Any changes to information previously provided under this clause.

This requirement is in addition to visit request procedures contained in DOD 5220.22-M, National Industrial Security Program Operating Manual.

## **2. 5352.204-9001 VISITOR GROUP SECURITY AGREEMENTS (MAY 1996)**

Prior to beginning operations involving classified information on an installation identified on the DD Form 254 where the contractor is not required to have a facility security clearance, the contractor shall enter into a security agreement (or understanding) with the installation commander to ensure that the contractor's security procedures are properly integrated with those of the installation. As a minimum, the agreement shall identify the security actions which will be performed:

(a) By the installation for the contractor, such as providing storage and classified reproduction facilities, guard services, security forms, security inspections under DOD 5220.22-M, classified mail services, security badges, visitor control, and investigating security incidents; and

(b) Jointly by the contractor and the installation, such as packaging and addressing classified transmittals, security checks, internal security controls, and implementing emergency procedures to protect classified material.

## **3. 5352.223-9000 ELIMINATION OF USE OF CLASS I OZONE DEPLETING SUBSTANCES (ODS) (MAY 1996)**

(a) It is Air Force policy to preserve mission readiness while minimizing dependency on Class I Ozone Depleting Substances (ODS), and their release into the environment, to help protect the Earth's stratospheric ozone layer.

(b) Unless a specific waiver has been approved, Air Force procurements:

(1) May not include any specification, standard, drawing, or other document that requires the use of a Class I ODS in the design, manufacture, test, operation, or maintenance of any system, subsystem, item, component, or process; and

(2) May not include any specification, standard, drawing, or other document that establishes a requirement that can only be met by use of a Class I ODS;

(c) For the purposes of Air Force policy, the following are Class I ODS:

(1) Halons: 1011, 1202, 1211, 1301, and 2402;

(2) Chlorofluorocarbons (CFCs): CFC-11, CFC-12, CFC-13, CFC-111, CFC-112, CFC-113, CFC-114, CFC-115, CFC-211, CFC-212, CFC-213, CFC-214, CFC-215, CFC-216, and CFC-217, and the blends R-500, R-501, R-502, and R-503; and

(3) Other Controlled Substances: Carbon Tetrachloride, Methyl Chloroform, and Methyl Bromide.

(d) The Air Force has reviewed the requirements specified in this contract to reflect this policy. Where considered essential, specific approval has been obtained to require use of the following substances:

Substance Application/Use Quantity (lbs)

**Carbon Tetrachloride/Research in Propulsion/approximately 1 gallon annually**

**Trichlorotrifluoroethane (CFC-113)/Research in Propulsion/approximately 5 gallons annually**

(e) To assist the Air Force in implementing this policy, the offeror/contractor is required to notify the contracting officer if any Class I ODS not specifically listed above is required in the performance of this contract.

**4. 5352.223-9001 HEALTH AND SAFETY ON GOVERNMENT INSTALLATIONS (JUN 1997)**

(a) In performing work under this contract on a Government installation, the contractor shall:

(1) Comply with the specific health and safety requirements established by this contract;

(2) Comply with the health and safety rules of the Government installation that concern related activities not directly addressed in this contract;

(3) Take all reasonable steps and precautions to prevent accidents and preserve the health and safety of contractor and Government personnel performing or in any way coming in contact with the performance of this contract; and

(4) Take such additional immediate precautions as the contracting officer may reasonably require for health and safety purposes.

(c) The contracting officer may, by written order, direct Air Force Occupational Safety and Health Standards (AFOSH) and/or health/safety standards as may be required in the performance of this contract and any adjustments resulting from such direction will be in accordance with the Changes clause of this contract.

(d) Any violation of these health and safety rules and requirements, unless promptly corrected as directed by the contracting officer, shall be grounds for termination of this contract in accordance with the Default clause of this contract.

**5. 5352.235-9000 SCIENTIFIC/TECHNICAL INFORMATION (STINFO) (MAY 1996)**

If not already registered, the contractor shall register for Defense Technical Information Center (DTIC) service by contacting the following:

Defense Technical Information Center, DTIC/BCS  
8725 John J. Kingman Road, Suite 0944  
Fort Belvoir, VA 22060-6218  
(703) 767-8273

To avoid duplication of effort and conserve scientific and technical resources, the contractor shall search existing sources in DTIC to determine the current state-of-the-art concepts, studies, etc.

**6. 5352.242-9000 CONTRACTOR ACCESS TO AIR FORCE INSTALLATIONS (MAY 1996)**

(a) The contractor shall obtain base identification and vehicle passes for all contractor personnel who make frequent visits to or perform work on the Air Force installation(s) cited in the contract. Contractor personnel are required to wear or prominently display installation identification badges or contractor-furnished, contractor identification badges while visiting or performing work on the installation.

(b) The contractor shall submit a written request on company letterhead to the contracting officer listing the following: contract number, location of work site, start and stop dates, and names of employees and subcontractor employees needing access to the base. The letter will also specify the individual(s) authorized to sign for a request for base identification credentials or vehicle passes. The contracting officer will endorse the request and forward it to the issuing base pass and registration office or security police for processing. When reporting to the registration office, the authorized contractor individual(s) should provide a valid driver's license, current vehicle registration, valid vehicle insurance certificate, and smog certificate to obtain a vehicle pass.

(c) During performance of the contract, the contractor shall be responsible for obtaining required identification for newly assigned personnel and for prompt return of credentials and vehicle passes for any employee who no longer requires access to the work site.

(d) When work under this contract requires unescorted entry to controlled or restricted areas, the contractor shall comply with AFI 31-209, the Air Force Resource Protection Program, and AFI 31-501, Personnel Security Program Management, as applicable.

(e) Upon completion or termination of the contract or expiration of the identification passes, the prime contractor shall ensure that all base identification passes issued to employees and subcontractor employees are returned to the issuing office.

(f) Prior to submitting an invoice for final payment, the prime contractor shall obtain a clearance certification from the issuing office which states all base identification passes have been turned in, accounted for, or transferred to a follow-on contract. This certification shall be submitted to the contracting officer prior to submission of the final invoice for payment.

(g) Failure to comply with these requirements may result in withholding of final payment.

#### **D. AIR FORCE MATERIEL COMMAND FAR CONTRACT CLAUSES IN FULL TEXT**

##### **1. 5352.209-9002 ORGANIZATIONAL CONFLICT OF INTEREST (AFMC) (JUL 1997) ALTERNATE II (JUL 1997) ALTERNATE III (JUL 1997) ALTERNATE VI (JUL 1997)**

(a) The following restrictions and definitions apply to prevent conflicting roles which may bias the Contractor's judgment or objectivity, or to preclude the Contractor from obtaining an unfair competitive advantage in concurrent or future acquisitions.

##### **(1) Descriptions or definitions:**

"Contractor" means the business entity receiving the award of this contract, its parents, affiliates, divisions and subsidiaries.

"Development" means all efforts towards solution of broadly-defined problems. This may encompass research, evaluating technical feasibility, proof of design and test, or engineering of programs not yet approved for acquisition or operation.

"Proprietary Information" means all information designated as proprietary in accordance with law and regulation, and held in confidence or disclosed under restriction to prevent uncontrolled distribution. Examples include limited or restricted data, trade secrets, sensitive financial information, and computer software; and may appear in cost and pricing data or involve classified information.

"Technology area" means a unique concept, design, process or approach that is specific to another contractor's proposal or product.

(2) Restrictions: The Contractor shall participate in the technical evaluation of other Contractors' proposals or products. To ensure objectivity, the Contractor is precluded from award of any supply or service contract or subcontract for the **technology area that is being reviewed**. This restriction shall be effective for three years from when the contractor last acted in a technical capacity on that specific **technology area**. This does not apply to other technical evaluations concerning the **technology area**.

(b) The Contractor may gain access to proprietary information of other companies during contract performance. The Contractor agrees to enter into company-to-company agreements to (1) protect another company's information from unauthorized use or disclosure for as long as it is considered proprietary by the other company and (2) refrain from using the information for any purpose other than that for which it was furnished. For information purposes, the Contractor shall furnish copies of these agreements to the Contracting Officer. These agreements are not intended to protect information which is available to the Government or to the Contractor from other sources and furnished voluntarily without restriction.

(c) The above restrictions shall be included in all subcontracts, teaming arrangements, and other agreements calling for performance of work which is subject to the organizational conflict of interest restrictions identified in this clause, unless excused in writing by the Contracting Officer.

## **2. 5352.223-9000 USE OF HAZARDOUS MATERIALS IN THE PERFORMANCE OF ON-BASE CONTRACTS (AFMC) (JUL 1997)**

(a) "Hazardous Material" as used in this clause includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The list of hazardous materials identified FAR 52.223-3, Hazardous Material Identification and Material Safety Data, and DFARS 252.223-7001, Hazard Warning Labels, shall be updated during performance of the contract whenever the Contractor determines that any other material to be delivered or used on base in excess of 24 hours and under this contract is hazardous based on changes in the composition of the item(s) or a revision to Federal Standard No. 313. Provide written notification of changes in the Material Safety Data Sheets (MSDSs), including a copy of the updated MSDS, of each item to the identified point of contact on the installation prior to use of the item on installation.

(c) The Contractor shall submit a Contractor Hazardous Material Report, in accordance with guidance provided by the Environmental Management Office (AFFTC/EM), Edwards AFB, CA, at (805) 277-1401 for each item identified under Section I clauses referenced above or updates resulting from paragraph (b) of this clause 15 days prior to bringing the items on base. Update the report at least monthly (beginning no later than 30 days after the material is brought on base) until the hazardous material is removed from the base.

(d) All hazardous material used on base (including material to be used for a period of less than 24 hours) shall contain a hazardous material warning label. The label shall include a list of the hazardous chemical(s), material identification which matches the part number and/or trade name on the MSDS, appropriate hazard warnings (including description of target organs), and name and address of the chemical manufacturer, importer, or other responsible party.

(e) The Contractor is responsible for conducting and documenting employee hazard communication training prior to the commencement of work on base.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

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

(h) Notwithstanding any other rights in technical data specified elsewhere in this contract, the Government may use, duplicate, and disclose any data to which this clause is applicable to apprise personnel of the hazards to which they may be exposed and obtain medical treatment for those affected by the material. In addition, the Government may allow others to use, duplicate and disclose data for these purposes.

### **3. 5352.227-9000 EXPORT-CONTROLLED DATA RESTRICTIONS (AFMC) (JUL 1997)**

(a) For the purpose of this clause,

(1) Foreign person is any person who is not a citizen or national of the U.S. or lawfully admitted to the U.S. for permanent residence under the Immigration and Nationality Act, and includes foreign corporations, international organizations, and foreign governments;

(2) Foreign representative is anyone, regardless of nationality or citizenship, acting as an agent, representative, official, or employee of a foreign government, a foreign-owned or influenced firm, corporation or person;

(3) Foreign sources are those sources (vendors, subcontractors, and suppliers) owned and controlled by a foreign person.

(b) The Contractor shall place a clause in subcontracts containing appropriate export control restrictions, set forth in this clause.

(c) Nothing in this clause waives any requirement imposed by any other U.S. Government agency with respect to employment of foreign nationals or export controlled data and information.

(d) Equipment and technical data generated or delivered under this contract are controlled by the International Traffic in Arms Regulation (ITAR), 22 CFR Sections 121 through 128. An export license is required before assigning any foreign source to perform work under this contract or before granting access to foreign persons to any equipment and technical data generated or delivered during performance (see 22 CFR Section 125). The Contractor shall notify the Contracting Officer and obtain written approval of the Contracting Officer prior to assigning or granting access to any work, equipment, or technical data generated or delivered under this contract to foreign persons or their representatives. The notification shall include the name and country of origin of the foreign person or representative, the specific work, equipment, or data to which the person will have access, and whether the foreign person is cleared to have access to technical data (DoD 5220.22-M, National Industrial Security Program Operating Manual (NISPOM)).

### **4. 5352.228-9001 INSURANCE CLAUSE IMPLEMENTATION (AFMC) (JUL 1997)**

The Contractor shall obtain and maintain the minimum kinds and amounts of insurance during performance of this contract as specified by FAR 28.307-2, Liability, and contemplated by FAR 52.228-5, Insurance--Work on a Government Installation, and/or 52.228-7, Insurance--Liability to Third Persons.

### **5. 5352.237-9001 CONTRACTOR IDENTIFICATION (AFMC) (JUL 1997)**

(a) Contractor personnel and their subcontractors must identify themselves as Contractors or subcontractors during meetings, telephone conversations, in electronic messages, or correspondence related to this contract.

(b) Contractor-occupied facilities (on AFMC or other Government installations) such as offices, separate rooms, or cubicles must be clearly identified with Contractor supplied signs, name plates or other identification, showing that these are work areas for Contractor or subcontractor personnel.

### **6. 5352.245-9004 BASE SUPPORT (AFMC) (JUL 1997) - ALTERNATE I (JUL 1997)**

Base support shall be provided by the Government to the Contractor in accordance with this clause. Failure by the Contractor to comply with the requirements of this clause shall release the Government, without prejudice, from its obligation to provide base support by the date(s) required. If warranted, and if the Contractor has complied with the requirements of this clause, an equitable adjustment shall be made if the Government fails to provide base support by the date(s) required.

(a) Base support includes Government-controlled working space, material, equipment, services (including automatic data processing), or other support (excluding use of the Defense Switched Network (DSN)) which the Government determines can be made available at, or through, any Air Force installation where this contract shall be

performed. All Government property in the possession of the Contractor, provided through the base support clause, shall be used and managed in accordance with the Government Property clauses.

(b) The Air Force installations providing the support shall be listed in subparagraph (e), and the Government support to be furnished by each installation under this contract shall be listed in subparagraph (f).

(c) Unless otherwise stipulated in the contract schedule, support shall be provided on a no-charge-for-use basis and the value shall be a part of the Government's contract consideration.

(d) The Contractor agrees to immediately report (with a copy to the cognizant CAO) inadequacies, defective Government-Furnished Property (GFP) or nonavailability of support stipulated by the contract schedule, together with a recommended plan for obtaining the required support. The Government agrees to determine (within 10 workdays) the validity and extent of the involved requirement and the method by which it shall be fulfilled (e.g., purchase, rental, lease, GFP, etc.). Facilities shall not be purchased under this clause. Additionally, the Contractor (or authorized representative) shall not purchase, or otherwise furnish any base support requirement provided by the clause (or authorize others to do so), without prior written approval of the Contracting Officer regarding the price, terms, and conditions of the proposed purchase, or approval of other arrangements.

(e) Following are installations where base support will be provided Air Force Research Laboratory (AFRL), Propulsion Directorate, Edwards Research Site, Edwards AFB CA.

(f) The Government support to be furnished under this contract is listed in Attachment 2, Base Support, and Attachment 3, Joint-Use Property. Because of the nature and location(s) of the work performed, the value of such equipment is undeterminable. The Contractor shall not incur any cost resulting from nonsupport prior to Contracting Officer concurrence in accordance with this clause.

Alternate I (AFMC)(JUL 1997). As prescribed in 5345.106-90(b), add the following paragraph (g) to the basic clause:

(g) When this contract is a cost, cost-reimbursement, time-and-materials, or labor hour contract, the Contractor agrees that in the performance of this contract or any major subcontract no direct or indirect costs for property will be incurred if the Government determines that property is available at, or through any Air Force installation where this contract shall be performed. Only the prior written approval of the Contracting Officer can relieve the Contractor from this restriction.

(h) Joint-Use Property.

(1) During the performance of this contract, the contractor may utilize on an unscheduled basis, the Joint-Use property listed in Attachment 3 and updated annually.

(2) The cognizant Air Force Equipment Custodian(s) will maintain the Government's official Government property records on such Joint-Use property.

(3) Should a Government-Contractor, or a Contractor-Contractor, conflict arise regarding utilization of the Joint-Use property described herein, the contractor shall immediately notify the Government Project Manager or cognizant Government Area Manager for resolution of the conflict.

(4) Except for risks which the contractor may be entitled to reimbursement or compensation under any insurance required by and included as a direct charge to this contract, the contractor's liability for such Joint-Use property used shall be the same as set forth in FAR clause 52.245-5 incorporated into this contract.

PART III - LIST OF DOCUMENTS, EXHIBITS AND ATTACHMENTS  
SECTION J

LIST OF ATTACHMENTS  
F04611-99-C-0025

<u>DOCUMENT</u>	<u>DATE</u>	<u>PGS</u>	<u>TITLE</u>
ATCH 1	15 JUN 1998	11	STATEMENT OF WORK TITLED, "RESEARCH IN PROPULSION SCIENCES"
ATCH 2	15 JUN 1998	2	BASE SUPPORT
ATCH 3	15 JUN 1998	104	JOINT-USE PROPERTY (INCORPORATED BY REFERENCE)
ATCH 4	17 MAR 1998	4	DD 254, CONTRACT SECURITY CLASSIFICATION SPECIFICATION
EXHIBIT A	19 MAR 1998	7	CONTRACT DATA REQUIREMENTS LIST, DD FORM 1423-1
EXHIBIT B	19 MAR 1998	8	CONTRACT DATA REQUIREMENTS LIST, DD FORM 1423-1



**ATTACHMENT 1**

**TO**

**RFP F04611-99-C-0025**

**STATEMENT OF WORK (SOW)**

**FOR**

**RESEARCH IN PROPULSION SCIENCES**

**15 JUN 98**

**This SOW, including the cover page, consists of 11 pages.**

## 1.0 SCOPE

The objective of this contract is to provide scientific and engineering research and development (R&D) for the Air Force Research Laboratory, Propulsion Directorate (AFRL/PR), Edwards AFB, CA. This effort will provide on-site theoretical and experimental rocket and missile propulsion research in the physical and engineering disciplines. Typical research to be conducted includes investigation of High Energy Density Matter (HEDM), Chemical/Physical Science and Engineering Disciplines, as well as Aerophysics interactions.

## 2.0 APPLICABLE DOCUMENTS

2.1 All specifications, exhibits, standards, regulations, manuals, and other documents referenced and identified in the Statement of Work (SOW), but not herein attached, are incorporated into the contract by reference. The contractor shall comply with regulations and specifications referenced throughout the contract and the SOW. A list of applicable documents is provided in Appendix 1.

## 3.0 REQUIREMENTS

### 3.1 Organization

3.1.1 General. The contractor shall provide on-site basic, exploratory and developmental theoretical and experimental research required to fulfill the terms of this SOW. The contractor shall function effectively and flexibly within Government/contractor teams which may involve multiple contractors and where technical direction will come from the Government. The presence of an on-site contract program manager and proactive researchers are expected to facilitate the coordination of key activities. Contractor personnel shall maintain close information cross-feed with their Government counterparts. The contractor shall maintain the capability to quickly respond to evolving requirements, including attending meetings on short notice and developing viable action plans. It is recognized in R&D, that goals, methods, and requirements can evolve rapidly and that flexible and effective participation in problem solving activities require information exchange directly with other team members. The contractor shall communicate to the Government any actions that could substantially impact an objective.

3.1.2 Structure. The work to be performed under this SOW is divided into two major categories: 1) R&D Technical Effort; and 2) Management/Administration Effort. The technical effort is apportioned into 3 technical areas where each area is subdivided into technical objectives. The technical objectives are further divided. The Management/Administration Effort is likewise distributed among areas that are separated further. (CDRL A002)

3.1.3 Location. The contractor shall perform the majority of the research under this SOW on-site at AFRL/PR, Edwards AFB, CA. Research may be performed at other locations as approved in writing by the Government Project Manager (GPM).

3.1.4 Operating Hours. AFRL/PR facilities are normally available from 0630 to 1800, however the contractor should normally conduct R&D activities during the normal AFRL/PR duty hours of 0730 to 1600 Monday through Friday, excluding Federal holidays. For safety reasons, deviations to work outside of the normal R&D duty hours (0730 - 1600) shall be coordinated through the AFRL safety office.

## 3.2 Personnel

3.2.1 Contract Program Manager (CPM). The contractor shall designate a single CPM to have the ultimate responsibility and authority for the management and administration of this contract.

3.2.2 Research Personnel. The contractor shall attract and retain top quality personnel (e.g. through a combination of compensation, benefits, competitive pay, and positive management practices). Research personnel shall be fully qualified in their respective area of research.

3.2.3 Professional Interactions. The contractor's personnel are expected to perform those duties that are necessary to advance and maintain a professional reputation within the research community. Examples of desired professional interactions include participation in technical conferences, publications in refereed research journals, performance of editorships, and proactive teaming with DOD employees and other contractors. Participation in such activities shall not adversely affect the program technical performance, schedule, or quality of research.

## 3.3 Technical Research Program

R&D Requirements. This section only broadly defines the scope and requirements of each R&D technical area and objective. The contractor shall work with Government personnel and other contractors in a teaming environment to advance the research described in SOW section 3.3.1. The contractor shall ensure that all researchers document all research work in Government provided notebooks. (CDRL A001, A002, B001)

3.3.1 R&D Technical Effort. The contractor shall perform the following research activities:

3.3.1.1 Area I - High Energy Density Matter (HEDM). The goal of this technical area is to identify, synthesize and characterize highly energetic and dense molecular systems that are capable of surpassing the performance of currently used propellants. Such systems must be capable of storing energy in a dense form for subsequent release upon demand.

Technology activities include: investigation, synthesis, and characterization of potential HEDM candidates; cryogenic engineering; advanced novel syntheses and formulations of HEDM containing propellants; chemical kinetics and thermodynamics; as well as research in Earth-storable liquid oxidizers, solid oxidizers and monopropellants.

3.3.1.1.1 Objective 1 - Theoretical Investigation of HEDM. Theoretically identify and characterize high-energy molecular systems. Characterize promising chemical species in terms of molecular and electronic structure, energetics, reactivity, lifetimes and decay channels. Investigate the formation and stabilization routes in support of experimental activities. (CDRL A001, A002, B001)

3.3.1.1.1.1 Search for New HEDM Species. Incorporate appropriate state-of-the-art ab initio computational chemistry methods to obtain key characterization information such as accurate potentials, structures and barriers to decomposition. In general, the molecules of interest will be of high energy and low molecular weight with sufficient stability to be used in rocket propulsion applications.

3.3.1.1.1.2 Theoretical Investigation into the Stabilization or Packaging of HEDM Species. Perform molecular dynamics or reaction dynamics calculations to understand the behavior of energetic species in the bulk phase. The focus shall be on understanding recombination kinetics, diffusion rates and concentration limitations of atoms or small molecules in solids. The contractor shall also investigate reaction kinetics and pathways of combustion as well as the decomposition in solid and liquid propellants at ambient and sub-ambient pressures.

3.3.1.1.1.3 Theoretical Support of Experimental Efforts. Calculate spectroscopic information, such as excited state electronic transitions and vibrational frequencies and intensities to assist the experimentalists in the interpretation of spectroscopic data. Investigate reaction pathways to assist the synthetic chemist in attempts to synthesize HEDM species.

3.3.1.1.2 Objective 2 - Experimental Investigation of HEDM. Perform a systematic study of the structure, stability, and reactions of atoms, molecular compounds, and dimers of lightweight elements used as additives in cryogenic propellants. The intended use of such additives is to significantly increase the propellant performance. (CDRL A001, A002, B001)

3.3.1.1.2.1 Isolation of metal species. Isolate and investigate the interaction and strength of the intermolecular potential of metal atom or dimer clusters complexed in solid hydrogen molecules. Conduct studies of other small radicals or other unusual forms of molecules that have high energy density.

3.3.1.1.2.2 Develop, construct or modify existing apparatus to characterize small metal clusters. The final product will result in an increased understanding of the structure and

energetics of small metals and metal hydrogen clusters for use in future studies of large-scale production and isolation runs of such species.

3.3.1.1.2.3 Synthesize and characterize energetic compounds such as polynitrogens; polyoxygens; catenated  $\text{NF}_2$  compounds; chlorine pentafluoride oxide; novel monopropellants based on nitroformate, dinitramide, nitrocyamide, and nitrate salts; and novel energetic anions.

3.3.1.1.3 Objective 3 - HEDM Transition. The goal of this technical objective is to evaluate the HEDM materials and demonstrate their feasibility as significantly improved rocket propellants or ingredients. (CDRL A001, A002, B001)

3.3.1.1.3.1 Synthesis and characterization of HEDM materials. Synthesize a wide variety of HEDM materials to include solid and liquid components, storables, and cryogenics. Synthesis includes development to appropriate synthetic pathways and methods required to produce the material in macroscopic quantities. This effort shall also include optimization of product yield and purity as well as identification of potential problem areas for industrial scale-up. Develop scale-up procedures for synthesizing pound quantities of those materials determined to be potential near-term high-energy propellants and propellant additives. Characterization includes the use of basic spectroscopy, bomb calorimetry and thermal analysis to conduct structural studies and hazards assessment.

3.3.1.1.3.2 Evaluation of HEDM propellants. Compare HEDM propellant performance to that of existing rocket propellants under realistic conditions. This may entail conducting theoretical and experimental analysis of potential formulations and examining how recent scientific and engineering advances (such as novel engineering approaches and new handling/storage techniques for materials) may impact the possible future use of the HEDM materials.

3.3.1.1.4 Objective 4 - Analytical Chemistry. Provide analytical chemistry support to AFRL which include routine screening, characterization, and evaluation of solid, liquid, and cryogenic propellants; hydrocarbon fuels, oils, and pressurizing gases; polymers, ceramics, and carbon-based samples. Analysis is conducted according to referenced MIL-SPEC and ASTM methods using various chemical and analytical techniques. (CDRL A001, A002)

3.3.1.2 Area II - Chemical Sciences. The goal of this technical area is to advance material and propulsion technology for application to military space, missile, and aerospace systems. Technology activities include: advanced polymeric and co-polymer propulsion materials; surface science electrochemistry of composites; magnetoplasma dynamics, plasma and fusion propulsion. Key areas of interest include devising methods to obtain high-strength, low-weight, easily processable and cost efficient resins and materials.

3.3.1.2.1 Objective 1 - Rocket, Aero and Space Vehicle Surfaces, Structural Components, and Insulation. Develop efficient synthetic techniques that allow control over: the structure of inorganic or organometallic monomers; chemical reactivity of these monomers; copolymer architecture; processability of the copolymers; and thermomechanical and thermochemical properties of the copolymers. Use these techniques to: develop versatile, efficient, synthetic techniques for the preparation of organic-inorganic hybrid nanocomposites and preceramic polymers; characterize the structure-property relationships of these new materials; investigate the fundamental solid state thermochemical processes that occur during pyrolysis (CDRL A001, A002, B001)

3.3.1.2.2 Objective 2 - Electric Propulsion. Perform fundamental investigations directed towards understanding the basic physics of the Electric Propulsion thrusters including Arcjets, Hall thrusters, Resistojets, Pulsed Plasma Thrusters, and Micro-Propulsion thrusters. The researchers shall use this understanding to aid in the development of advanced propulsion units with significantly enhanced capability. Theoretical efforts will consider the effects of such phenomenon as plasma instabilities, plasma-solid interactions and anomalous transport on the thruster efficiency. Experimental efforts will validate the plasma theories relating to electric propulsion, and detect previously unconsidered loss mechanisms. Typical diagnostic techniques include Resonant Laser Diagnostics, High-Speed Imaging across the ElectroMagnetic spectrum, plasma probes, and high-precision thrust stands. Researchers shall also define and develop new, advanced plasma diagnostic techniques. (CDRL A001, A002, B001)

3.3.1.2.3 Objective 3 - Advanced Propulsion. Identify, investigate, and evaluate the feasibility of advanced, revolutionary, or radically new ideas in order to substantially enhance the Air Force's space and missile mission capability. Work in this objective shall include experimental and theoretical activities that may lead to revolutionary advances in science or discoveries of new technology. Theoretical efforts shall seek out and evaluate anomalous areas in physics and define the implications of the breakthrough physics found in these theories. Appropriate experimental efforts that test theoretical predictions shall then be conducted. Initial specific work in this objective shall involve an evaluation and systems analysis of various advanced propulsion concepts being considered within the propulsion community (e.g. plasma propulsion, dense plasma focus, laser propulsion, antimatter propulsion, and fusion propulsion). These concepts shall be examined for suitability for Air Force mission requirements leading to a recommendation for future propulsion concepts. Design and conduct experiments to demonstrate the feasibility of the selected propulsion concepts. (CDRL A001, A002, B001)

3.3.1.2.4 Objective 4 - Carbon Materials Research. Study methods for the rapid densification of carbon-carbon composites using both liquid and gas phase processes. Investigate coating techniques for protecting carbon-carbon composites from oxidation, such as low-pressure plasma spray and functionally graded coatings. Enhance techniques to fabricate ceramic and metallic components to isolate carbon composites from an oxidizing atmosphere. Investigate the fabrication of microtubes and microtube devices as

well as the flow of fluids through microtubes. Fabricate, test, then analyze the results. (CDRL A001, A002, B001)

3.3.1.2.5 Objective 5 - Fracture Mechanics of Solid Rocket Motors. Conduct analytical and experimental studies to investigate crack instability and growth behavior in solid propellants and bond systems. Specific research areas include cumulative damage, nonlinear constitutive modeling, nondestructive testing and evaluation, fracture mechanics, experimental mechanics, probabilistic mechanics, and service life prediction. Develop criteria for the onset of crack growth and growth models. (CDRL A001, A002, B001)

3.3.1.3 Area III - Aerophysics. The goal of this technical area is to investigate the aerophysics interactions associated with propulsion systems such as rocket engines. Conduct experimental, analytical, and computational investigations of non-equilibrium gas dynamics, propellant combustion and decomposition chemistry, and propellant injection and combustion device processes in support of the development of missile, boost, spacecraft, and combined cycle propulsion systems as well as surveillance technologies. Specific areas of current interest to the Air Force are described more fully below.

3.3.1.3.1 Objective 1 - Non-equilibrium Gas Dynamics. Investigate non-equilibrium gas dynamic phenomena in relevant areas of spacecraft propulsion such as high temperature chemically reacting flows (e.g., rocket nozzle flow and exhaust), gas transport through small passages (e.g., microthruster flows), and the interaction of thruster exhaust and spacecraft surfaces (thruster-induced contamination). Develop accurate and robust computer simulation tools to describe these phenomena. These may require both continuum computational fluid dynamics codes and particle-based direct molecular simulation codes. New analytical and computational models of non-equilibrium gas dynamic phenomena shall be developed, or existing models shall be enhanced to incorporate improved physical realism. For example, basic studies of collisional energy transfer processes in rocket nozzle expansions, shock layers, or rocket exhaust plumes will be needed. Validate models by performing experimental and computational studies of key collisional energy transfer processes and rates in reacting gas mixtures. In addition, system level experimental studies shall include measurements of internal and external gas flow field characteristics for various spacecraft thrusters to provide insight into operational and spacecraft interaction issues. (CDRL A001, A002, B001)

3.3.1.3.2 Objective 2 - Propellant Combustion and Decomposition Chemistry. Investigate propellant combustion and decomposition chemistry in all relevant regions of a propulsion system, from the combustion chamber, through the nozzle and into the exhaust plume. Conduct focused studies of specific, detailed reaction dynamics, kinetics, reaction pathways, and energy release mechanisms. Studies shall be required on a wide variety of propellants, including solid, liquid, and gas phases. Means of influencing these mechanisms to improve various combustion characteristics shall be sought, for example by investigating the feasibility of molecular substitutions. Perform fuel detonation characterization studies and overall decomposition parameterization studies of existing

propellants for synthesizing new and novel energetic fuel materials for future use in high-performance vehicles such as in pulsed-denotation engines. Liquid phase studies may include thermal decomposition mechanisms of high temperature fuels and lubricants, including the effects of autocatalysis, metal surface catalysis, oxidation, and the influence of contaminants. (CDRL A001, A002, B001)

3.3.1.3.3 Objective 3 - Propellant Injection and Combustion Device Processes. Investigate injection, atomization, and droplet vaporization and burning processes that contribute to combustion in propulsion systems such as liquid rocket engines. Perform studies on sprays and single droplets vaporizing or burning at pressures similar to those in actual propulsion systems, including pressures that can exceed the thermodynamic critical point of the propellant(s). Use imaging techniques, spectroscopy, phase Doppler particle analysis, and other optical and light scattering techniques to determine drop sizes, velocities, temperatures, compositions, vaporization and breakup rates, mass flux distributions, fuel/oxidizer ratio distributions, and other similar quantities in cold and hot flow conditions. The contractor may be required to aid in the design of optical and experimental facilities for performing these studies. Obtain experimental data from literature or in-house research then reduce that data, develop semi-empirical correlations, propose mechanisms, and develop and operate combustion prediction codes. (CDRL A001, A002, B001)

#### 3.4 Program Management.

3.4.1 Organization. The contractor shall manage technical and administrative requirements of this contract while concurrently reviewing and incorporating cost reduction and control methods. The contractor shall establish and maintain operations that include: Program Planning and Control; Subcontract management; as well as Financial Control and Management. (CDRL A001, A002, A003, A004, A005, A006,)

3.4.2 The contractor shall be prepared to assist the Government in performing research under Cooperative Research and Development Agreements (CRDAs) in which the Government has already entered into or will enter into with outside collaborators. (CDRL A001, A002, A003, A004, B001)

#### 3.5 Area I - Program Reviews

3.5.1 Annual Program Reviews (APR). Provide annual insight into technical and managerial issues as they arise. The contractor shall conduct an APR to discuss agenda issues which may include: a) technical objectives set forth at the last APR, technical accomplishments since the last APR, and planned technical activity for each active objective; b) proposed schedule and cost requirements for each objective for the next 12 month period along with their relationship to the objective and area baseline schedules and milestones; c) identification of any current or potential problems which may affect contractor performance in meeting the contract requirements; d) recommendations to exploit a technology breakthrough or planned resolution for each problem, projected



deficiencies or schedule/milestone discrepancies; e) assessment of the contractor's ability to meet the contractual schedule requirements specified in the most current Program Plan; f) status of all deliverable data items to include due dates to the Government, date sent and date Government approval is required (if applicable); g) review/assess the contractor's program management efforts/capabilities in supporting the requirements specified in the SOW; h) financial status (reported to CWBS level 4 and above); i) and any additional topics designated by the GPM. Unless specified otherwise and approved in advance by the GPM, the contractor shall conduct the APR at AFRL/PR, Edwards AFB, CA. (CDRL A001, A002, A004, A005, A006)

### 3.6 Area II - Safety and Health

3.6.1 Compliance. In addition to all Federal, State and County safety and health regulations, the contractor shall comply with applicable AFRL Safety and Health Office policies and directives as identified in Appendix 1.

3.6.2 Systems Safety. The contractor shall aggressively identify safety hazards and pursue practical means to minimize unintentional catastrophic failure of hardware and physical harm to personnel. The contractor shall establish and maintain an injury and illness prevention program that meets Federal and State requirements. (CDRL A001 and A004)

### 3.7 Area III - Security

3.7.1 Controlled Area Badges. The Government will issue Controlled Area Badges to contractor personnel requiring unescorted entry to controlled areas on a daily or frequent basis. Contractor personnel shall conspicuously display the Controlled Area Badge. The contractor shall adhere to AFI 31-209 and all applicable base regulations for security vehicles and equipment, and fire protection/prevention.

### 3.8 Area IV - Subcontract Management.

3.8.1 Subcontracting/Procurement. The contractor shall notify the GAM and GPM of any material, supplies or equipment purchase actions prior to the final purchase.

## 4.0 ADDITIONAL REQUIREMENTS

### 4.1 Project Management.

4.1.1 The GPM will be the single point-of-contact with the contractor, under Contracting Officer (CO) direction, for clarifying the specifications, limits, and requirements of the SOW.

4.1.2 The Government Area Monitor (GAM), will be the point(s)-of-contact for the contractor cross-feed of technical and project management information.

## 4.2 Release of Program Information.

4.2.1 Refer to DD form 254, FAR 4.404(a), and DFARS 204.404.

## 4.3 Travel

4.3.1 General. Performance of this contract may require the contractor to conduct temporary duty (TDY) off-site. Such TDY may include attending conferences, seminars, symposia, as well as performing literature searches and conducting research.

4.3.2 Travel. The contractor shall travel in accordance with AFI 65-103, paragraph 4.3.2, "Invitational Travel Orders" and Joint Travel Regulations, Part A: "Invitation to Travel," C-6000-10, and C-6003.

## 4.4 Contractor Changeover

4.4.1 Current and Succeeding Contractors. It is recognized that the best interests of the Government will be served by attracting and retaining world-class researchers where there is a continuity of technical expertise. In the event of a changeover, the incumbent contractor shall cooperate fully with the succeeding contractor, including permitting incumbent employees to be interviewed at AFRL/PR (during non-contractor-paid hours) for possible employment by a succeeding contractor.

## APPENDIX 1 TO SOW: APPLICABLE DOCUMENTS

Compliance documents (Contract, SOW, Exhibits, Attachments, and As Required). The following or most current regulations, specifications, standards, and other guidance documents are applicable as authorized by the contract.

### Air Force Research Laboratory Regulations

OL-AC PLI 91-202	Safety, Health and Environmental Program Management, Aug 95
OL-AC PL/RKS OI 91-1	Propulsion Sciences Division Accident Prevention Plan, Jul 97

### AF Instructions

AFI 31-101, Volume I	AF Physical Security Program, Dec 96
AFI 31-209	AF Resource Protection Program, Nov 94
AFI 31-401	Information Security Program, Jul 94
AFI 31-601	Industrial Security Program Regulation, Apr 96
AFI 91-201	Explosive Safety Standards, Sep 98

### AF Regulations

AFOOSH Series	Safety, 91
AFOOSH 61 Series	Other AFOOSH standards

### AF Policy

AFP 91-210	Contract Safety, Feb 94
------------	-------------------------

### DOD Directives and Standards

DOD-M-5220.22	National Industrial Security Program Operating Manual, Jan 95
---------------	---

### Military Specifications and Standards

MIL-STD-882C	System Safety Program Requirements, Jan 96
--------------	--

**ATTACHMENT 2**

**TO**

**RFP F04611-99-C-0025**

**BASE SUPPORT**

**FOR**

**RESEARCH IN PROPULSION SCIENCES**

**15 JUN 98**

**This Attachment, including the cover page, consists of 2 pages.**

## BASE SUPPORT

- **Sr. Research Scientist/Principal Investigator: 1 desk, chair, class "A" telephone (per person) and office space per position (size and layout to be determined)**
- **Scientist/Technician: 1 desk, chair, class "A" telephone (per person) and office space per two positions (size and layout to be determined)**
- **Administrator/Secretary: 1 desk, chair, class "A" telephone, class "A" fax/modem/data line, filing cabinet and office space per position (size and layout to be determined)**
- **Additional support provided:**
  - **Unlimited utilities in offices and laboratories**
  - **Access to Base libraries**
  - **Office custodial support**
  - **Access to and authorization to operate Government owned vehicles (as available on a temporary basis when required in the fulfillment of contractual responsibilities)**
  - **Unlimited access to Laboratory buildings that are shared by Government personnel (e.g., bldgs. 8417, 8423, 8424, 8451, 8454, 8455, 8456, 8457, 8595, EA 1-14, EA 1-21, EA 1-30)**
  - **Laboratory notebooks for researchers to use in documenting contract work**
  - **Emergency medical treatment**
  - **Security police support**
  - **Firefighter support**

**ATTACHMENT 4**

**TO**

**RFP F04611-99-C-0025**

**CONTRACT SECURITY CLASSIFICATION SPECIFICATION  
DD FORM 254**

**FOR**

**RESEARCH IN PROPULSION SCIENCES**

**17 MAR 98**

**This DD 254, including the cover page, consists of 4 pages.**

DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION <i>(The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort)</i>				1. CLEARANCE / SAFEGUARDING	
				a. FACILITY CLEARANCE REQUIRED SECRET	
				b. LEVEL OF SAFEGUARDING REQUIRED SECRET	
2. THIS SPECIFICATION IS FOR: (X and complete as applicable)			3. THIS SPECIFICATION IS FOR: (X and complete as applicable)		
<input checked="" type="checkbox"/>	a. PRIME CONTRACT NUMBER F04611-99-C-0025		<input checked="" type="checkbox"/>	a. ORIGINAL (Complete date in all cases) Date (YYMMDD) 980317	
	b. SUBCONTRACT NUMBER			b. REVISED (Supersedes all previous specs)	Revision No. Date (YYMMDD)
	c. SOLICITATION OR OTHER NUMBER	DUE Date (YYMMDD)		c. FINAL (Complete Item 5 in all cases) Date (YYMMDD)	
4. IS THIS A FOLLOW-ON CONTRACT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO. If Yes, complete the following: Classified material received or generated under _____ (Preceding Contract Number) is transferred to this follow-on contract					
5. IS THIS FINAL DD Form 254? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO. If Yes, complete the following: In response to the contractor's requested dated _____, retention of the identified classified material is authorized for the period of _____					
6. CONTRACTOR (Include Commercial and Government Entity (CAGE) Code)					
a. NAME, ADDRESS, and ZIP CODE ERC, INCORPORATED 1940 ELK RIVER DAM ROAD PO BOX 937 TULLAHOMA TN 37388		b. CAGE CODE 0E2X3	c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code) DIRECTORATE OF INDUSTRIAL SECURITY SOUTHEAST REGION 2300 LAKE PARK DRIVE, SUITE 250 SMYRNA GA 30080-7606		
7. SUBCONTRACTOR					
a. NAME, ADDRESS, AND ZIP CODE N/A		b. CAGE CODE N/A	c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code) N/A		
8. ACTUAL PERFORMANCE					
a. LOCATION N/A		b. CAGE CODE N/A	c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code) N/A		
9. GENERAL IDENTIFICATION OF THIS PROCUREMENT This contract shall provide on-site theoretical and experimental research in the physical and engineering sciences that support space and missile rocket propulsion technologies that are of interest to the Air Force.					
10. THIS CONTRACT WILL REQUIRE ACCESS TO:			11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL:		
	YES	No		YES	NO
a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION		X	a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY		X
b. RESTRICTED DATA		X	b. RECEIVE CLASSIFIED DOCUMENTS ONLY		X
c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION		X	c. RECEIVE AND GENERATE CLASSIFIED MATERIAL	X	
d. FORMERLY RESTRICTED DATA		X	d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE		X
e. INTELLIGENCE INFORMATION			e. PERFORM SERVICES ONLY		X
(1) Sensitive Compartmented Information (SCI)		X	f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S. PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES		X
(2) Non-SCI	X		g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER	X	
f. SPECIAL ACCESS INFORMATION		X	h. REQUIRE A COMSEC ACCOUNT		X
g. NATO INFORMATION		X	i. HAVE TEMPEST REQUIREMENTS	X	
h. FOREIGN GOVERNMENT INFORMATION		X	j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS	X	
i. LIMITED DISSEMINATION INFORMATION		X	k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE		X
j. FOR OFFICIAL USE ONLY INFORMATION	X		l. OTHER (Specify) See Air Force FAR Sup clause 5352.204-9000 titled, "Notification of Government Security Activity."	X	
k. OTHER (Specify) Limited distribution documents	X				

**12. PUBLIC RELEASE.** Any information (classified or unclassified) pertaining to this contract shall not be released for public dissemination except as provided by the Industrial Security Manual or unless it has been approved for public release by appropriate Government authority. Proposed public releases shall be submitted for approval prior to release

Direct  Through (Specify): AFRL/PROI (STINFO), 2 Draco Drive, Edwards AFB CA 93524-7800. Allow four weeks for processing.

to the Directorate for Freedom of Information and Security Review, Office of the Assistant Secretary of Defense (Public Affairs)\* for review.  
\*In the case of non-DoD User Agencies, requests for disclosure shall be submitted to that agency.

**13. SECURITY GUIDANCE:** The Security classification guidance need for this classified effort is identified below. If any difficulty is encountered in applying this guidance or if any other contributing factor indicates a need for changes in this guidance, the contractor is authorized and encouraged to provide recommended changes; to challenge the guidance or the classification assigned to any information or material furnished or generated under this contract; and to submit any questions for interpretation of this guidance to the official identified below. Pending final decision, the information involved shall be handled and protected at the highest level of classification assigned or recommended. (Fill in as appropriate for the classified effort. Attach, or forward under separate correspondence, any documents/guidelines/extracts reference herein. Add additional pages as needed to provide complete guidance.)

Block 10 e(2). The contractor is permitted access to Non-SCI intelligence information (WNINTEL and NOFORN) in performance of this contract. Access to intelligence information requires a final US Government clearance at the appropriate level. AFFTC/IN will sign off on a continuation sheet. AFFTC/IN or AFRL/PROI (Security Forces) will administer the special briefings.

Block 10j. For Official Use Only information provided under this contract shall be safeguarded to prevent unauthorized access.

Block 10k. All UNCLASSIFIED documents generated under this contract must be handled as limited distribution documents. Mark the first page as follows: Distribution authorized to U.S. Government agencies and their contractors; Critical Technology, (fill in date).

All UNCLASSIFIED documents must be handled as limited distribution documents until cleared for Public Release (if release is appropriate), Handle to prevent unauthorized access. Destroy waste to prevent reconstruction of document. Process through AFRL/PROI (STINFO) for clearance. Executive Order 12958 applies to this contract. The National Industrial Security Program Operations Manual (NISPO) applies for this contract.

Block 11c. The contractor will require access to classified source data up to and including SECRET in support of this work effort. Propulsion Directorate safe custodians will validate contract employees need to know and security clearance before granting access to classified information. The contractor shall neither store nor maintain classified documents, but will have access to needed documents at the Propulsion Directorate, Edwards AFB CA. Any extracts or use of such data will require the contractor to apply derivative classification markings consistent with the source from which the extracts were made. Generation refers to new documents or materials rather than the reproduction of existing documents. Documents generated under this contract shall be marked in accordance with the SDI SCG, Sep 96, (Guide provided by AFRL/PRS).

Block 11g. The contractor will submit DD Form 1540 (Registration for Scientific and Technical Information) to the Defense Technical Information Center (DTIC) in accordance with the Industrial Security Manual (ISM).

Block 11j. The contractor will comply with the AFRL/PR OPSEC program. AFRL/PROI (Security Forces) is the point of contact for OPSEC concerns.

**14. ADDITIONAL SECURITY REQUIREMENTS.** Requirements, in addition to ISM requirements, are established for this contract. (If Yes,

Yes  No

identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement which identifies the additional requirements. Provide a copy of the requirements to the cognizant security office. Use Item 13 if additional space is needed.)

Blocks 11i and 14. The contractor shall ensure that compromising emanations (TEMPEST) related to this contract are kept to a minimum. The prime contractor is responsible for ensuring compliance by any subcontractors/vendors. Any equipment used to generate classified information on site at Edwards must be approved by the Government for processing classified information.

**15. INSPECTIONS.** Elements of this contract are outside the inspection responsibility of the cognizant security office. (If Yes, identify specific areas or elements carved out and the activity responsible for inspections. Use Item 13 if additional space is needed.)

Yes  No

Contractor work performance at contractor main office and at AFRL/PR, Edwards AFB, CA. The Defense Investigative Service (DIS) will administer industrial security inspections of contractor's performance. The servicing security activity (SSA), 95 SPTG/ASIS, will maintain oversight, control and supervision at AFRL/PR and will perform all required inspections IAW the Visitor Group Agreement.

**16. CERTIFICATION AND SIGNATURE.** Security requirements stated herein are complete and adequate for safeguarding the classified information to be released or generated under this classified effort. All questions shall be referred to the official named below

a. TYPED NAME OF CERTIFYING OFFICIAL

(b)(6)

b. TITLE

Contracting Officer

c. TELEPHONE

(805) 277-3900, ext. 2229

d. ADDRESS (include Zip Code)

Directorate of Contracting, AFFTC/PKAE  
5 South Wolfe Ave  
Edwards AFB CA 93524-1185

**17. REQUIRED DISTRIBUTION**

- a. CONTRACTOR
- b. SUBCONTRACTOR
- c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR
- d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION
- e. ADMINISTRATION CONTRACTING OFFICER
- f. OTHERS AS NECESSARY PM, 95 SPTG/ASIS & HQ AFAM/SF

e. SIGNATURE

(b)(6)



Block 14. All contractor employee personnel must be listed on an approved visit request in order to be granted unescorted entry to AFRL/PR, Edwards AFB CA. Contractor employee company photo badges will reflect "EDWARDS AFB" on the face of the badge. This requirement applies only to permanently assigned contractor personnel and not random visitors.

Contractor personnel who operate personal computers (government stand alone and/or network systems) shall have a favorable national agency check (NAC) conducted prior to accessing the computer system(s).

(b)(6)

6-3-98

(b)(6)

SECURITY CLASSIFICATION GUIDANCE REVIEW

(b)(6)

(b)(6)

**EXHIBIT A**

**TO**

**SOLICITATION F04611-99-C-0025**

**CONTRACT DATA REQUIREMENTS LIST (CDRL)**

**DD FORM 1423**

**19 MAR 1998**

**This exhibit, including the cover page, consists of 7 pages.**

# CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 110 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 in Block E.

<b>A. CONTRACT LINE ITEM NO.</b> 0003	<b>B. EXHIBIT</b> A	<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER <input checked="" type="checkbox"/>
--	------------------------	---

<b>D. SYSTEM/ITEM</b> Research in Propulsion Sciences	<b>E. CONTRACT/PR NO.</b> F04611-99-C-0025	<b>F. CONTRACTOR</b> ERC, INCORPORATED
--	---	---

<b>1. DATA ITEM NO.</b> A001	<b>2. TITLE OF DATA ITEM</b> Program Progress Report	<b>3. SUBTITLE</b>
---------------------------------	---	--------------------

<b>4. AUTHORITY (Data Acquisition Document No.)</b> DI-MGMT-80555	<b>5. CONTRACT REFERENCE</b> See Blk 16	<b>6. REQUIRING OFFICE</b> AFRL/PRS
--	--	--

<b>7. DD 250 REQ</b> LT	<b>9. DIST STATEMENT REQUIRED</b> D	<b>10. FREQUENCY</b> QTRLY	<b>12. DATE OF FIRST SUBMISSION</b> See Blk 16	<b>14. DISTRIBUTION</b>		
<b>8. APP CODE</b> N/A		<b>11. AS OF DATE</b> N/A	<b>13. DATE OF SUBSEQUENT SUBMISSION</b> See Blk 16	<b>a. ADDRESSEE</b>	<b>b. COPIES</b>	
					<b>Draft</b>	<b>Final</b>
						<b>Reg</b>
						<b>Repro</b>

<b>16. REMARKS</b>  Block 5: SOW Paragraphs 3.3; 3.3.1.1.1-3.3.1.1.4; 3.3.1.2.1-3.3.1.2.5; 3.3.1.3.1-3.3.1.3.3; 3.4.1; 3.4.2; 3.5.1; 3.6.2  Block 9: Distribution Statement D: "Distribution authorized to the Department of Defense and DoD contractors only; Critical Technology; (Fill in Date). Other requests for this document must be referred to AFRL/PRS, 10 E. Saturn Blvd., Edwards AFB CA 93524-7680." All technical data must be marked: WARNING - This document contains technical data whose export is restricted by the ARMS EXPORT CONTROL ACT (Title 22, USC, Sec 2751 et seq) or the EXPORT ADMINISTRATION ACT of 1979, as amended, Title 50, USC, App 2401 et seq. Violations of these export laws are subject to severe criminal penalties.  Blocks 12 & 13: The initial Program Progress Report shall be due 90 calendar days after contract award. Subsequent submissions shall be the 1st of the month after close of the contractor's monthly accounting period nearest the end of each calendar quarter.  Block 14: Letter only to ACO.	AFRL/PRS	4	
	AFFTC/PKAE	1	
	ACO		
<b>15. TOTAL</b>		5	

<b>G. PREPARED BY</b> (b)(6)	<b>H. DATE</b> 3/19/98	<b>I. APPROVED BY</b> (b)(6)	<b>J. DATE</b> 3/19/98
---------------------------------	---------------------------	---------------------------------	---------------------------

# CONTRACT DATA REQUIREMENTS LIST

(1 Data Item)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 110 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 in Block E.

A. CONTRACT LINE ITEM NO. 0003	B. EXHIBIT A	C. CATEGORY: TDP _____ TM _____ OTHER <input checked="" type="checkbox"/>
-----------------------------------	-----------------	--

D. SYSTEM/ITEM Research in Propulsion Sciences	E. CONTRACT/PR NO. F04611-99-C-0025	F. CONTRACTOR ERC, INCORPORATED
---	--	------------------------------------

1. DATA ITEM NO. A002	2. TITLE OF DATA ITEM Contract Work Breakdown Structure (CWBS)	3. SUBTITLE
--------------------------	---	-------------

4. AUTHORITY (Data Acquisition Document No.) DI-MGMT-81334	6. CONTRACT REFERENCE See Blk 16	6. REQUIRING OFFICE AFRL/PRS
---	-------------------------------------	---------------------------------

7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED D	10. FREQUENCY ASREQ	12. DATE OF FIRST SUBMISSION See Blk 16	14. DISTRIBUTION	
8. APP CODE N/A		11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION See Blk 16	a. ADDRESSEE	b. COPIES
					Final
					Draft    Reg    Repro

16. REMARKS

Block 4: Tailor DID as follows: Contractor format is acceptable.

Block 5: SOW Paragraphs 3.1.2; 3.3; 3.3.1.1.1-3.3.1.1.4; 3.3.1.2.1-3.3.1.2.5; 3.3.1.3.1-3.3.1.3.3; 3.4.1; 3.4.2; 3.5.1

Block 9: Distribution Statement D: \*Distribution authorized to the Department of Defense and DoD contractors only; Critical Technology; (Fill in Date). Other requests for this document must be referred to AFRL/PRS, 10 E. Saturn Blvd., Edwards AFB CA 93524-7680. \* All technical data must be marked:  
WARNING - This document contains technical data whose export is restricted by the ARMS EXPORT CONTROL ACT (Title 22, USC, Sec 2751 et seq) or the EXPORT ADMINISTRATION ACT of 1979, as amended, Title 50, USC, App 2401 et seq. Violations of these export laws are subject to severe criminal penalties.

Blocks 10, 12 & 13: Contractor shall submit at CWBS Level 4 and contractor defined tasking at Level 5 as part of the Program Plan for each objective. Initial submission of the CWBS shall be 30 calendar days after contract award. Subsequent submissions of the CWBS shall be within 15 calendar days of request by AFRL/PRS Program Manager or when the contractor deems it appropriate (e.g., because of amendments made to objectives that result in changes or tasking to the current CWBS).

	15. TOTAL → 4
--	---------------

G. PREPARED BY (b)(6)	H. DATE 3/19/98	I. APPROVED BY (b)(6)	J. DATE 3/19/98
--------------------------	--------------------	--------------------------	--------------------

**CONTRACT DATA REQUIREMENTS LIST**  
(1 Data Item)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 110 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 20603. 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 in Block E.

<b>A. CONTRACT LINE ITEM NO.</b> 0003	<b>B. EXHIBIT</b> A	<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER <input checked="" type="checkbox"/>
--	------------------------	---

<b>D. SYSTEM/ITEM</b> Research in Propulsion Sciences	<b>E. CONTRACT/PR NO.</b> F04611-99-C-0025	<b>F. CONTRACTOR</b> ERC, INCORPORATED
--	---	---

<b>1. DATA ITEM NO.</b> A003	<b>2. TITLE OF DATA ITEM</b> Data Accession List	<b>3. SUBTITLE</b>
---------------------------------	---	--------------------

<b>4. AUTHORITY (Data Acquisition Document No.)</b> DI-MISC-81453	<b>5. CONTRACT REFERENCE</b> SOW Para. 3.4.1; 3.4.2	<b>6. REQUIRING OFFICE</b> AFRL/PRS
--	--	--

<b>7. DD 250 REQ</b> LT	<b>9. DIST STATEMENT REQUIRED</b> D	<b>10. FREQUENCY</b> ASREQ	<b>12. DATE OF FIRST SUBMISSION</b> See Blk 16	<b>14. DISTRIBUTION</b>		
<b>8. APP CODE</b> N/A		<b>11. AS OF DATE</b> N/A	<b>13. DATE OF SUBSEQUENT SUBMISSION</b> See Blk 16	<b>a. ADDRESSEE</b>	<b>b. COPIES</b>	
					Draft	Final

<b>16. REMARKS</b>  Block 9: Distribution Statement D: "Distribution authorized to the Department of Defense and DoD contractors only; Critical Technology; (Fill in Date). Other requests for this document must be referred to AFRL/PRS, 10 E. Saturn Blvd., Edwards AFB CA 93524-7680." All technical data must be marked: <b>WARNING</b> - This document contains technical data whose export is restricted by the ARMS EXPORT CONTROL ACT (Title 22, USC, Sec 2751 et seq) or the EXPORT ADMINISTRATION ACT of 1979, as amended, Title 50, USC, App 2401 et seq. Violations of these export laws are subject to severe criminal penalties.  Blocks 10, 12 & 13: Initial submission of the Data Accession List shall be due 30 calendar days after contract award. Subsequent submissions of the Data Accession List shall be within 15 calendar days of request by AFRL/PRS Program Manager or when the contractor deems it appropriate (e.g., because of changes in availability or type of data in the current Data Accession List).  Block 14: Letters only to AFFTC/PKAE and ACO.	AFRL/PRS		1
	AFFTC/PKAE		
	ACO		
<b>15. TOTAL</b>			1

<b>G. PREPARED BY</b> (b)(6)	<b>H. DATE</b> 3/19/98	<b>I. APPROVED BY</b> (b)(6)	<b>J. DATE</b> 3/19/98
---------------------------------	---------------------------	---------------------------------	---------------------------

**CONTRACT DATA REQUIREMENTS LIST**  
(1 Data Item)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 110 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 in Block E.

<b>A. CONTRACT LINE ITEM NO.</b> 0003	<b>B. EXHIBIT</b> A	<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER <input checked="" type="checkbox"/>
--	------------------------	---

<b>D. SYSTEM/ITEM</b> Research in Propulsion Sciences	<b>E. CONTRACT/PR NO.</b> F04611-99-C-0025	<b>F. CONTRACTOR</b> ERC, INCORPORATED
--	---	---

<b>1. DATA ITEM NO.</b> A004	<b>2. TITLE OF DATA ITEM</b> Program Plan	<b>3. SUBTITLE</b>
---------------------------------	--	--------------------

<b>4. AUTHORITY (Data Acquisition Document No.)</b> DI-MGMT-80909	<b>5. CONTRACT REFERENCE</b> SOW Para. 3.4.1;3.4.2;3.5.1; 3.6.2	<b>6. REQUIRING OFFICE</b> AFRL/PRS
--	--	--

<b>7. DD 260 REQ</b> LT	<b>9. DIST STATEMENT REQUIRED</b> E	<b>10. FREQUENCY</b> ASREQ	<b>12. DATE OF FIRST SUBMISSION</b> See Blk 16	<b>14. DISTRIBUTION</b>		
<b>8. APP CODE</b> A		<b>11. AS OF DATE</b> N/A	<b>13. DATE OF SUBSEQUENT SUBMISSION</b> See Blk 16	<b>a. ADDRESSEE</b>	<b>b. COPIES</b>	
					Draft	Final

<b>16. REMARKS</b>  Block 4: Tailor DID as follows: a. The Program Plan shall be based on the Contract Work Breakdown Structure (CWBS) and the Statement of Work (SOW). Contractor shall identify schedule interdependencies. b. Paragraph 10.2, Line 6 is clarified to include: Management of subcontracts, security, safety, health, environmental management, quality control, property management/inventory control, procurement and travel, data and program management. c. Paragraph 10.2.1.b, Line 1: Program Plan to the CWBS for the objective in question and the related CWBS elements. d. Paragraph 10.2.1.g. is clarified as follows: (1) Major task equates to reportable subtask CWBS element; (2) Contractor shall break down the estimated cost into estimated prime contractor costs, subcontractor costs, management and administration costs as well as costs of fees or burdens. e. Paragraph 10.2.1.h. is clarified as follows: Prime Item Development Specification equates to SOW and CWBS. Work shall be defined one level below the level shown in the CWBS' lowest level. f. Paragraph 10.2.1.i.(1) is clarified to include identification of the objective's principal investigator.  Block 9: Distribution Statement E: "Distribution authorized to the Department of Defense only; Proprietary Information; (Fill in Date). Other requests for this document must be referred to AFRL/PRS, 10 E. Saturn Blvd., Edwards AFB CA 93524-7680." All technical data must be marked: WARNING - This document contains technical data whose export is restricted by the ARMS EXPORT CONTROL ACT (Title 22, USC, Sec 2751 et seq) or the EXPORT ADMINISTRATION ACT of 1979, as amended, Title 50, USC, App 2401 et seq. Violations of these export laws are subject to severe criminal penalties.  Blocks 10, 12 & 13: Initial submission of the Program Plan shall be due 30 calendar days after contract award. The Government Program Manager will take no more than 15 calendar days to approve or disapprove the Program Plan. The contractor shall take no more than 15 calendar days to submit the final Program Plan. Subsequent submissions of Program Plans shall be due within 30 calendar days following the request of the AFRL/PRS Program Manager or when the contractor deems it appropriate (e.g., because of amendments made to objectives that result in changes to tasking of the current Program Plan). The approval process and submission of the final Program Plans will be the same as the initial submission.	AFRL/PRS	2	1	
	AFFTC/PKAE		1	
	ACO		1	
	<b>15. TOTAL</b>	→	2	3

<b>G. PREPARED BY</b> (b)(6)	<b>H. DATE</b> 3/19/98	<b>I. APPROVED BY</b> (b)(6)	<b>J. DATE</b> 3/19/98
---------------------------------	---------------------------	---------------------------------	---------------------------



**CONTRACT DATA REQUIREMENTS LIST**  
(1 Data Item)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 110 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, 1216 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 in Block E.

<b>A. CONTRACT LINE ITEM NO.</b> 0003	<b>B. EXHIBIT</b> A	<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER <input checked="" type="checkbox"/>
--	------------------------	---

<b>D. SYSTEM/ITEM</b> Research in Propulsion Sciences	<b>E. CONTRACT/PR NO.</b> F04611-99-C-0025	<b>F. CONTRACTOR</b> ERC, INCORPORATED
--	---	---

<b>1. DATA ITEM NO.</b> A006	<b>2. TITLE OF DATA ITEM</b> Funds and Man-Hour Expenditure Report	<b>3. SUBTITLE</b>
---------------------------------	---	--------------------

<b>4. AUTHORITY (Data Acquisition Document No.)</b> DI-FINCL-80331	<b>5. CONTRACT REFERENCE</b> SOW Para. 3.4.1; 3.5.1	<b>6. REQUIRING OFFICE</b> AFRL/PRS
---	--	--

<b>7. DD 250 REQ</b> LT	<b>8. APP CODE</b> N/A	<b>9. DIST STATEMENT REQUIRED</b> E	<b>10. FREQUENCY</b> MTHLY	<b>11. AS OF DATE</b> N/A	<b>12. DATE OF FIRST SUBMISSION</b> See Blk 16	<b>13. DATE OF SUBSEQUENT SUBMISSION</b> See Blk 16	<b>14. DISTRIBUTION</b>		
							<b>a. ADDRESSEE</b>		
							<b>b. COPIES</b>		
							Draft		
							Final		
							Reg		
							Repro		

<b>16. REMARKS</b>  Block 4: Tailor DID as follows: Contractor format is acceptable. Paragraph 10.2 is clarified as follows: Submit data for all approved objectives, active or completed. Report Figures 1, 2 and 3 data for each SOW objective at each CWBS level.  Block 9: Distribution Statement E: "Distribution authorized to the Department of Defense only; Proprietary Information; (Fill in Date). Other requests for this document must be referred to AFRL/PRS, 10 E. Saturn Blvd., Edwards AFB CA 93524-7680." All technical data must be marked: WARNING - This document contains technical data whose export is restricted by the ARMS EXPORT CONTROL ACT (Title 22, USC, Sec 2751 et seq) or the EXPORT ADMINISTRATION ACT of 1979, as amended, Title 50, USC, App 2401 et seq. Violations of these export laws are subject to severe criminal penalties.  Blocks 12 & 13: The initial Funds and Man-Hour Expenditure Report shall be due 30 days after contract award. Subsequent submissions shall be due at the end of each calendar month or contractor accounting period nearest the end of the month.	AFRL/PRS	1		
	AFRL/PROB	1		
	AFFTC/PKAE	1		
	ACO	1		
<b>15. TOTAL</b>		4		

<b>G. PREPARED BY</b> (b)(6)	<b>H. DATE</b> 3/19/98	<b>I. APPROVED BY</b> (b)(6)	<b>J. DATE</b> 3/19/98
---------------------------------	---------------------------	---------------------------------	---------------------------



**EXHIBIT B**

**TO**

**SOLICITATION F04611-99-C-0025**

**CONTRACT DATA REQUIREMENTS LIST (CDRL)**

**DD FORM 1423**

**19 MAR 1998**

**This exhibit, including the cover page, consists of 8 pages.**

**CONTRACT DATA REQUIREMENTS LIST**  
(1 Data Item)

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 110 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 in Block E.

<b>A. CONTRACT LINE ITEM NO.</b> 0004	<b>B. EXHIBIT</b> B	<b>C. CATEGORY:</b> TDP _____ TM _____ OTHER <input checked="" type="checkbox"/>
--	------------------------	---

<b>D. SYSTEM/ITEM</b> Research in Propulsion Sciences	<b>E. CONTRACT/PR NO.</b> F04611-99-C-0025	<b>F. CONTRACTOR</b> ERC, INCORPORATED
--	---	---

<b>1. DATA ITEM NO.</b> B001	<b>2. TITLE OF DATA ITEM</b> Scientific and Technical Reports	<b>3. SUBTITLE</b> Final Reports
---------------------------------	--	-------------------------------------

<b>4. AUTHORITY (Data Acquisition Document No.)</b> DI-MISC-80711	<b>5. CONTRACT REFERENCE</b> See Blk 16	<b>6. REQUIRING OFFICE</b> AFRL/PRS
--	--	--

<b>7. DD 260 REQ</b> DD	<b>9. DIST STATEMENT REQUIRED</b> D	<b>10. FREQUENCY</b> ONE/R	<b>12. DATE OF FIRST SUBMISSION</b> See Blk 16	<b>14. DISTRIBUTION</b>		
<b>8. APP CODE</b> A		<b>11. AS OF DATE</b> N/A	<b>13. DATE OF SUBSEQUENT SUBMISSION</b> See Blk 16	<b>a. ADDRESSEE</b>	<b>b. COPIES</b>	
					Draft	Final

<b>16. REMARKS</b>  Block 4: See attached for Standard Form 298 and AFRL Ansi-based Format Requirements. Contractor shall complete Blocks 2 thru 7, 8 (if applicable), 9, 11, 13 and 14 of Form 298 and submit with draft of Final Report.  Block 5: SOW Paragraphs 3.3; 3.3.1.1.1-3.3.1.1.3; 3.3.1.2.1-3.3.1.2.5; 3.3.1.3.1-3.3.1.3.3; 3.4.2.  Block 9: Distribution Statement D: "Distribution authorized to Department of Defense and DoD contractors only; Critical Technology; (Fill in Date). Other requests for this document must be referred to AFRL/PROI (STINFO), 2 Draco Dr., Edwards AFB CA 93524-7800." All technical data must be marked: WARNING - This document contains technical data whose export is restricted by the ARMS EXPORT CONTROL ACT (Title 22, USC, Sec 2751 et seq) or the EXPORT ADMINISTRATION ACT of 1979, as amended, Title 50, USC, App 2401 et seq. Violations of these export laws are subject to severe criminal penalties.  Blocks 12 & 13: Contractor shall deliver the Final Reports, in draft, within 45 calendar days after completion of each objective as listed in SOW. The USAF Contract Office will take no more than 45 calendar days to review, edit and return each draft to the contractor. Upon receipt of the technically reviewed and edited drafts, the contractor shall take no more than 45 calendar days to incorporate all required changes and deliver the Final Reports in camera-ready and electronic copy compatible with the standard AFRL version of Microsoft Office at the time of submission.  Letters only to AFFTC/PKAE and ACO.	AFRL/PRS	2		1
	AFRL/PROI	1	1	
	AFFTC/PKAE			
	ACO			
<b>15. TOTAL</b>		3	1	1

<b>G. PREPARED BY</b> (b)(6)	<b>H. DATE</b> 3/19/98	<b>I. APPROVED BY</b> (b)(6)	<b>J. DATE</b> 3/19/98
---------------------------------	---------------------------	---------------------------------	---------------------------

# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No 0704-0133

Public reporting burden for this collection of information is estimated to average 1 hour 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 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 (0704-0133), Washington DC 20503.

1. AGENCY USE ONLY (LEAVE BLANK)		2. REPORT DATE	3. REPORT TYPE AND DATES COVERED	
4. TITLE AND SUBTITLE		5. FUNDING NUMBERS		
6. AUTHOR(S)		C: PE: PR: TA:		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)		8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)		10. SPONSORING/MONITORING AGENCY REPORT NUMBER		
11. SUPPLEMENTARY NOTES				
COSATI CODE(S):				
12a. DISTRIBUTION/AVAILABILITY STATEMENT		12b. DISTRIBUTION CODE		
13. ABSTRACT (MAXIMUM 200 WORDS)				
14. SUBJECT TERMS			15. NUMBER OF PAGES	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	
Unclassified	Unclassified	Unclassified	SAR	

**AFRL PROPULSION DIRECTORATE EDWARDS SITE**  
**ANSI-BASED FORMAT REQUIREMENTS**

The United States Air Force Research Laboratory (AFRL), Propulsion Directorate, Edwards AFB California uses the ANSI as a guide for all technical reports, as outlined below.

- **Type (Font) and Heads (Chapter Titles)**

The preferred type (font) is 12-point Times New Roman or Arial. The following is an example (format and spacing) of heads:

**1.0 FIRST-ORDER HEAD IS ALL CAPS, CENTERED AND BOLDED**

Insert one blank line between heads and text.

- 1.1 **Second-Order Head is Bolded, Same Font Size as Text, Caps and Lower Case, Flush with Left Margin**

- 1.1.1 **Third-Order Head is Indented into the Paragraph, Boldface, Caps and Lower Case Letters, Followed by a Period. Then continue the copy.**

-or-

- 1.1.1 **Third Order Head May Be Flush with Left Margin**

Then continue copy in new paragraph, as done with second-order heads.

- **Spacing.** Drafts can be submitted with line spacing at either one-and-a-half or double spaced. Camera-ready copy should be single spaced. It isn't necessary to double-space between paragraphs if the first line of each paragraph is indented.
- **Margins.** Leave one-inch left, right, and top margins. *Page number should be located one-half inch (1/2") from bottom of page.*
- **Numbering:** Page numbers are centered at bottom of page, Figure numbers are centered below Figure, with caption centered on the line below Figure number (or on the same line as Figure number). Table numbers are centered above Table on the same line as Table caption, and Equations are numbered on right margin across from Equation.

*Number Figures, Tables, and Equations sequentially, not by section.*

- **Style for Equations:**

$$E = MC^2 \tag{1}$$

$$\phi_{det} = L_e \times \Omega_{det} \times v_n(D,i) \cdot \pi D^2 dD \tag{2}$$

- Style for **Figure Captions**. Callouts (labels) should be in Upper and Lower case type, not all caps.

*Sample Representation Only  
(border not required)*

**Figure 1**

**The Figure Caption is Bolded, Centered, Caps and Lower Case Letters, No Periods**

-or-

**Figure 1. Figure Caption May be on Same Line as Figure Number**

- There should be two blank lines between Figures or Tables and text.
- Reference to Figures and Tables must appear in text *before* actual Figure or Table appears in report. Where possible, integrate Figures and Tables into text and place Figure/Table as soon after the first mention of it as possible, before beginning a new subject.

- Style for **Table Captions**:

**Table 1. Title Line and Number All in One Line, Centered or Flush Left, Bolded, (No Periods)**

*Sample Representation Only  
(border not required)*

All line drawings should be crisp and easy to read. Figure letters and numbers (callouts) should be typed and in at least an 8-point type (*handwriting on figures is not acceptable*).

Provide screened prints, negatives (Goldenrods) or photographs (color or black & white) with the camera-ready copy.

- **At Front of Document.** There should be the following 4 sections (all numbered with lower-case Roman numerals, beginning with Roman numeral iii): **Table of Contents, List of Figures, List of Tables, Glossary.**

- **Table of Contents**

Start pagination of Table Of Contents with lower-case Roman numeral **iii**. Start listing contents from Introduction (no need to include List of Figures, List of Tables, or Glossary). Appendices can be numbered as shown or sequentially from the last page of the report. If there's only one Appendix, just call it an Appendix. Example (border not required):

<b>TABLE OF CONTENTS</b>		<b>Page</b>
<b>Section</b>		
1.0	INTRODUCTION	1
2.0	DISCUSSION OF RESULTS	3
2.1	High Symmetry Hypervalent Structures (OF <sub>6</sub> )	4
2.2	Azide-like Structures	5
2.2.1	N(N <sub>3</sub> ) <sub>3</sub> , HN(N <sub>3</sub> ) <sub>2</sub> , N(N <sub>3</sub> ) <sub>2</sub> <sup>-</sup> and N(N <sub>3</sub> ) <sub>4</sub> <sup>+</sup>	5
2.2.2	NON <sub>3</sub> and NO <sub>2</sub> N <sub>3</sub>	7
3.0	CONCLUSIONS AND RECOMMENDATIONS	35
	REFERENCES	37
	APPENDIX A - Publications and Presentations	A-1
	APPENDIX B - Abstracts	B-1

- **List of Figures**

Continue pagination with lower-case Roman numerals. List all Figures found in text (not Figs. in Appendix, if any). Example (border not required):

<b>LIST OF FIGURES</b>		<b>Page</b>
<b>Figure</b>		
1	Overall View of Propulsion Vehicle	3
2	Motor Configuration	6
3	Apparatus Used to Make Nozzle Tubes	7

- **List of Tables**

Continue pagination with lower-case Roman numerals. List all Tables found in text (not Tables in Appendix, if any. These may be listed separately in front of the Appendix). Example (border not required):

<b>LIST OF TABLES</b>		<b>Page</b>
<b>Table</b>		
1	Some of the Upper-Stage Propulsion Options	19
2	Results of Test Firing #1	25
3	Results of Test Firing #2	26

27 Jan 1998

- Glossary**  
 Create an acronym list (Glossary) that lists and defines all acronyms and symbols that appear in your report. List all terms alphabetically, beginning with those starting with capital letters, followed by lower case (e.g., H<sub>2</sub>, HEDM, hcp). Follow alphabetical entries with Greek or special symbols. Capitalize definitions only if they are proper names (e.g. Department of Defense). In text, define acronym the first time it appears, with acronym following in parentheses; i.e. Small Business Innovation Research (SBIR). Example (border not required):

GLOSSARY	
CAT	computerized axial tomography
COMSAT	Communication Satellites
DMP-128	a Polaroid™ photopolymer
DoD	Department of Defense
dcg	dichromated gelatin
H <sub>2</sub>	hydrogen
HEDM	High Energy Density Matter
$\alpha$	angle of attack

Next, start body of text with Introduction, and begin pagination with Page 1 (English numerals).

- Abbreviations.** The words "Figure," "Reference," and "Equation" should be written out in text, but abbreviated when used within parentheses. Months are abbreviated to three letters without punctuation (e.g., Jun, Jul, Aug). Units of measurement are abbreviated (e.g., 12 cm, 50 l, 20 lb, 1 atm, 30 sec, 200 psig) without punctuation – except for "in." (inches), which may be followed by a period to distinguish it from the preposition – and are generally singular.

- **References.** References should be listed numerically, in the order they appear in the text. The Reference page should be at the end of the report (not at the end of each section).  
For works that are generally referred to throughout the report, without citing specific references from the work, create a Bibliography (in alphabetical order). Personal communications, unpublished speeches, or any other information not available for reference by the reader should not be included in the References – footnote your citation instead. References must be available to readers of the report.  
In References, include author(s) (last name first, followed by first name or initials), title, volume, date, page numbers. Follow this style:

**FOR PAPERS / JOURNAL ARTICLES / CONFERENCE PRESENTATIONS:**

Author's last name, then first  
Titles of papers are in quotation marks  
Journal names or Conference names are in *italics*  
Volume is **bolded**  
Date follows comma (not within parenthesis)  
page numbers (pp.) are last.

*Examples:*

Author(s) Lastname, First, "Title of Article," *Journal Name (italics)*, 19, 628, Jun 1993 pp. \_-\_.  
Author(s) Lastname, First, "Title of Article," Paper No. (if AIAA or CPIA paper, etc.), *Name of Conference*, Location, Date

**FOR TECH REPORTS:**

Author's last name, then first  
Titles of reports are in *italics*  
Next is report number  
Name and address of performing agency/organization  
Date is last

*Example:*

Author(s), *Title*, PL-TR-9\_ - \_\_\_\_, Company, Inc., City, ST, Jan 1996

**FOR BOOKS:**

Author's last name, then first  
Title of book can be **Bolded** or Underlined  
Publisher's name and address  
Date of publication  
Page numbers last

*Example:*

Author(s), **Book Title**, Harper & Rowe, New York, NY, 1993, pp. 36-38, 77, 98-101