

SOLICITATION/CONTRACT/ORDER FOR COMMERICAL ITEMS <u>OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24 & 30</u>				1.REQUISITION NUMBER SP0600-08-0748/757/761/768; SP0600-09-1206/1209		PAGE 1 OF 56					
2.CONTRACT NO.		3.AWARD/EFFECTIVE DATE		4.ORDER NUMBER		5.SOLICITATION NUMBER SP0600-09-R-0306					
7.FOR SOLICITATION INFORMATION CALL:		a.NAME Janell Davila				b.TELEPHONE NUMBER (No collect calls) 210-925-0766					
		8.OFFER DUE DATE/ LOCAL TIME 18 May 2009/ 1:00 p.m. Local Time		12.DISCOUNT TERMS							
9.ISSUED BY CODE DEFENSE ENERGY SUPPORT CENTER (DESC-MK) BLDG 1621 1014 BILLY MITCHELL BLVD. SAN ANTONIO, TX 78226 Email: Janell.Davila@dla.mil Telephone: 210-925-0766		SP0600		10.THIS ACQUISITION IS <input checked="" type="checkbox"/> UNRESTRICTED <input type="checkbox"/> SET ASIDE: % FOR <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> HUBZONE SMALL BUS <input type="checkbox"/> 8(A) NAICS: 325120 SIZE STANDARD: 1,000		11.DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED <input type="checkbox"/> SEE SCHEDULE <input type="checkbox"/> 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS(15 CFR 700) 13b. RATING 14.METHOD OF SOLICITATION <input type="checkbox"/> RFQ <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP					
15.DELIVER TO CODE SEE PART I, B1.09-2 SUPPLIES TO BE FURNISHED (INDEFINITE QUANTITY) (AEROSPACE ENERGY) (DESC APR 2006)				16.ADMINISTERED BY CODE SEE BLOCK 9 SP0600							
17a.CONTRACTOR/ CODE OFFEROR		FACILITY CODE		18a.PAYMENT WILL BE MADE BY CODE Defense Finance and Accounting Service Columbus Center ATTN: DFAS/BVDFB (Aerospace Energy) P. O. Box 182317 Columbus, OH 43218-2317 EFT:T HQ0104							
<input type="checkbox"/> 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADRESS IN OFFER				18b.SUMMIT INVOICES TO ADDRESS SHOWN IN BLCOK 18a UNLESS BLOCK BELOW IS CHECKED. <input type="checkbox"/> SEE ADDENDUM							
19. ITEM NO.		20. SCHEDULE OF SUPPLIES/SERVICES		21. QUANTITY		22. UNIT		23. UNIT PRICE		24. AMOUNT	
SEE PART I, B1.09-2 SUPPLIES TO BE FURNISHED (INDEFINITE QUANTITY) (AEROSPACE ENERGY) (DESC APR 2006)											
<i>(Use Reverse and/or Attach Additional Sheet as Necessary)</i>											
25.ACCOUNTING AND APPROPRIATION DATA						26.TOTAL AWARD AMOUNT (For Govt. Use Only)					
<input checked="" type="checkbox"/> 27a.SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4, FAR 52.212-3 AND 52.212-5 ARE ATTACHED <input checked="" type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED. <input type="checkbox"/> 27b.CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4, FAR 52.212-5 IS ATTACHED. ADDENDA <input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.											
28.CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN <u>1</u> COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED HEREIN.						29.AWARD OF CONTRACT: REFERENCE _____ DATED _____. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDES ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ALL ITEMS:					
30a.SIGNATURE OF OFFEROR/CONTRACTOR						31a.UNITED STATES OF AMERICA(SIGNATURE OF CONTRACTING OFFICER)					
30b.NAME AND TITLE OF SIGNER (Type or Print)				30c.DATE SIGNED		31b.NAME OF CONTRACTING OFFICER (Type or print)				31c.DATE SIGNED	
						BRADLEY W. STATON					

PART I – SF 1449 CONTINUED

IMPORTANT NOTICES TO OFFERORS:

1. The Government plans to award either a three year eleven-month, a four year, or four year one-month Firm Fixed-Price Requirements-Type contract(s) for each of the products at each customer location, to include accompanying services, as shown in the schedule.
2. All offerors shall comply with the requirements listed in Clause L2.35 PROPOSAL FORMAT AND CONTENT (AEROSPACE ENERGY) (DESC OCT 2008), and all offers will be evaluated in accordance with Clause M2.14 EVALUATION – COMMERCIAL ITEMS (AEROSPACE ENERGY) (DESC OCT 2008). Evaluation and award of resultant contract(s) will be based on each customer location to include all applicable product and service CLINs. Each product listed in the Schedule may result in separate contracts, even if a customer location has more than one product.
3. Central Contractor Registration (CCR) is required and is available at www.ccr.gov or (888) 227-2423.
4. For questions regarding Small Business or Small Disadvantage Business affairs, offerors are directed to Mrs. Lula Manley of DESC Small Business Office at 703 767-9678 or 800 523-2601.
5. The address for overnight delivery of proposals resulting from this solicitation is as follows:

Department of Defense
 Defense Energy Support Center
 Attn: Janell Davila
 DESC-MK, Bldg 1621
 1014 Billy Mitchell Blvd
 San Antonio, Texas 78226

6. SITE VISIT: A specific date and time for the site visit will be established, if requested by potential offerors, in accordance with the RFP Clause entitled SITE VISIT (L54.02).

SOLICITATION FORMAT

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MIL-PRF-27401F, 10 January 2008, PERFORMANCE SPECIFICATION, PROPELLANT PRESSURIZING AGENT, NITROGEN	Attachment 4
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PART I – SF 1449 CONTINUED**B1.09-2 SUPPLIES TO BE FURNISHED (INDEFINITE QUANTITY) (AEROSPACE ENERGY) (DESC APR 2006)**

(a) This is an indefinite quantity contract for the purchase of supplies (and/or services, if applicable) to be furnished during the contract term. The delivery points, methods of delivery, and estimated quantities are specified in the Schedule as contract line item numbers (CLINs). The quantities shown are best estimates of required Government quantities only. Unless otherwise specified, the total quantity ordered and required to be delivered/loaded may be greater than or less than such quantities as allowed by the VARIATION IN QUANTITY clause.

(b) The following provisions apply **ONLY** if the applicable box is checked:

- (1) This is a REQUIREMENTS-TYPE contract. The Government agrees to order from the Contractor and the Contractor shall deliver, if orders are placed by the DESC Contracting Officer during the contract period, all items awarded under this contract, as allowed by the REQUIREMENTS clause. A Blanket Delivery Order is considered “an order”, for the purposes of this clause.
- (2) This is an INDEFINITE DELIVERY/INDEFINITE QUANTITY contract. The Government agrees to order from the Contractor and the Contractor shall deliver, if orders are placed by the Contracting Officer during the contract period, at least the quantity of supplies or services designated in the Schedule as the “minimum”, as allowed by the INDEFINITE QUANTITY clause. A Blanket Delivery Order is considered “an order”, for the purposes of this clause
- (3) Orders issued by the Ordering Officer at the destination location are considered extensions of the Blanket Delivery Order issued by the DESC Contracting Officer and, as such, may be issued orally, by facsimile or by electronic commerce methods, as allowed by the ORDERING clause.
- (4) The unit prices specified below shall be fixed for the term of the contract.
- (5) The prices paid shall be the unit prices specified in subsequent price change modifications issued in accordance with the ECONOMIC PRICE ADJUSTMENT – STANDARD SUPPLIES clause, as contained in the Schedule.

- (6) [] The prices paid shall be the unit prices specified in subsequent price change modifications issued in accordance with the ECONOMIC PRICE ADJUSTMENT – SEMISTANDARD SUPPLIES clause, as contained in the Schedule.
- (7) [X] Items of this contract call for f.o.b. destination delivery, unless the item specifies otherwise. The destination for each item is the point of delivery shown in the particular item. Inspection for quality will be at origin with final acceptance at destination. Applicable to CLIN(s) 0001, 0002, 0003, 0007, 0008, 0009, 0010, 0011, 0016, 0017, 0018 and 0020.
- (8) [X] F.o.b. destination item(s) called for under this contract shall have shipment quantity determinations performed at destination.
- (9) [] Items of this contract call for f.o.b. origin delivery, unless the item specifies otherwise. Inspection and acceptance will be at origin. Applicable to CLIN(s) _____.
- (10) [X] Any offers received for less than the full quantity for each line item will be rejected by the Government.
- (11) [] A copy of the certified weight ticket shall accompany each shipment.
- (12) [X] A copy of the Certificate of Analysis shall accompany each shipment.
- (13) [X] An original and one copy of the H-14 Transport Equipment Delay Certificate shall be provided with each shipment, if applicable.

(DESC 52.207-9F79)

<u>ITEM</u>	<u>SUPPLIES/SERVICES</u>	<u>ESTIMATED QTY/UNIT</u>	<u>UNIT PRICE</u>	<u>TOTAL AMOUNT</u>
0001	LIQUID NITROGEN CLASSIFICATION SG-N OF THE AMERICAN WELDING SOCIETY SPECIFICATION IAW ANSI/AWS A5.32/A5.32M-97 NSN: 6830-01-526-5162 DELIVERED FOB DESTINATION TO ANNISTON ARMY DEPOT (ANAD), AL			
0001AA	CONTRACT PERIOD 1 1 OCT 2009 THROUGH 30 SEP 2010	168 TNS	_____	_____
0001AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	168 TNS	_____	_____
0001AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	168 TNS	_____	_____
0001AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	168 TNS	_____	_____
0001AE	SERVICES – HOT FILL IAW (C900, SECTION 1 - PARAGRAPH 11) ANAD, AL	PER OCCURRENCE	_____	_____
0002	LIQUID OXYGEN CLASSIFICATION SG-O OF THE AMERICAN WELDING SOCIETY SPECIFICATION IAW ANSI/AWS A5.32/A5.32M-97 NSN: 6830-01-527-7267 DELIVERED FOB DESTINATION TO ANNISTON ARMY DEPOT (ANAD), AL			
0002AA	CONTRACT PERIOD 1 1 OCT 2009 THROUGH 30 SEP 2010	252 TNS	_____	_____
0002AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	252 TNS	_____	_____
0002AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	252 TNS	_____	_____

0002AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	252 TNS	_____	_____
0002AE	SERVICES – HOT FILL IAW (C900, SECTION 1 - PARAGRAPH 11) ANAD, AL	PER OCCURRENCE	_____	_____
0003	LIQUID ARGON, TYPE II, GRADE B IAW MIL-PRF-27415B, DATED 8 FEB 2007 NSN: 9135-00-759-7634 DELIVERED FOB DESTINATION TO DEPARTMENT OF ENERGY (DOE) KANSAS CITY, MO			
0003AA	CONTRACT PERIOD 1 1 SEP 2009 THROUGH 30 SEP 2010	620,000 LBS	_____	_____
0003AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	620,000 LBS	_____	_____
0003AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	620,000 LBS	_____	_____
0003AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	620,000 LBS	_____	_____
0004	SERVICES – TANK & EQUIPMENT LEASE IAW (C900, SECTION 2, PARAGRAPH 3a & 7) FOR DOE KANSAS CITY, MO			
0004AA	CONTRACT PERIOD 1 1 SEP 2009 THROUGH 30 SEP 2010	13 MONTHS	_____	_____
0004AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	12 MONTHS	_____	_____
0004AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	12 MONTHS	_____	_____
0004AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	12 MONTHS	_____	_____
0005	SERVICES – TANK & EQUIPMENT INSTALLATION IAW (C-900, SECTION 2 – PARAGRAPH 8) FOR DOE KANSAS CITY, MO	1 EACH	_____	_____
0006	SERVICES - TANK & EQUIPMENT REMOVAL IAW (C-900, SECTION 2 - PARAGRAPH 9) FOR DOE KANSAS CITY, MO	1 EACH	_____	_____
0007	LIQUID ARGON, GRADE LW IAW DESC PURCHASE DESCRIPTION, ARGON, LOW WATER, AND ULTRA-PURE, DATED 11 MAY 2005 NSN: 6830-01-526-5174 DELIVERED FOB DESTINATION TO ANNISTON ARMY DEPOT, ANNISTON, AL			
0007AA	CONTRACT PERIOD 1 1 OCT 2009 THROUGH 30 SEP 2010	168,000 LBS	_____	_____

0007AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	168,000 LBS	_____	_____
0007AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	168,000 LBS	_____	_____
0007AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	168,000 LBS	_____	_____
0008	LIQUID ARGON, TYPE II, GRADE B IAW MIL-PRF-27415B, DATED 8 FEB 2007 NSN: 9135-00-759-7634 DELIVERED FOB DESTINATION TO ROBINS AFB, GA			
0008AA	CONTRACT PERIOD 1 1 OCT 2009 THROUGH 30 SEP 2010	112,000 LBS	_____	_____
0008AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	112,000 LBS	_____	_____
0008AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	112,000 LBS	_____	_____
0008AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	112,000 LBS	_____	_____
0009	LIQUID ARGON, TYPE II, GRADE B IAW MIL-PRF-27415B, DATED 8 FEB 2007 NSN: 9135-00-759-7634 DELIVERED FOB DESTINATION TO DEPARTMENT OF ENERGY (DOE) RICHLAND FACILITY, RICHLAND, WA			
0009AA	CONTRACT PERIOD 1 1 OCT 2009 THROUGH 30 SEP 2010	270,000 LBS	_____	_____
0009AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	270,000 LBS	_____	_____
0009AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	270,000 LBS	_____	_____
0009AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	270,000 LBS	_____	_____
0010	LIQUID ARGON, TYPE II, GRADE A IAW MIL-PRF-27415B, DATED 8 FEB 2007 NSN: 9135-00-759-7634 DELIVERED FOB DESTINATION TO WHITE SANDS MISSILE RANGE, NM (HELSTF)			
0010AA	CONTRACT PERIOD 1 1 OCT 2009 THROUGH 30 SEP 2010	120,000 LBS	_____	_____
0010AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	120,000 LBS	_____	_____

0010AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	120,000 LBS	_____	_____
0010AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	120,000 LBS	_____	_____
0010AE	SERVICES – HOT FILL IAW (C900, SECTION 2 - PARAGRAPH 10) HELSTF FACILITY, WHITE SANDS, NM	PER OCCURENCE	_____	_____
0011	LIQUID NITROGEN, TYPE II, GRADE B IAW MIL-PRF-27401F, DATED 10 Jan 2008 NSN: 9135-00-965-2526 DELIVERED FOB DESTINATION TO NORTHROP GRUMMAN SYSTEMS CORP., BALTIMORE, MD			
0011AA	CONTRACT PERIOD 1 1 SEP 2009 THROUGH 30 SEP 2010	268 TNS	_____	_____
0011AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	164 TNS	_____	_____
0011AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	123 TNS	_____	_____
0011AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	65 TNS	_____	_____
0012	SERVICES - TANK LEASE W/VAPORIZER IAW (C900, SECTION 3 - PARAGRAPH 11) FOR NORTHROP GRUMMAN SYSTEMS CORP., BALTIMORE, MD			
0012AA	CONTRACT PERIOD 1 1 SEPT 2009 TO 30 SEP 2010	13 MONTHS	_____	_____
0012AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	12 MONTHS	_____	_____
0012AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	12 MONTHS	_____	_____
0012AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	12 MONTHS	_____	_____
0013	SERVICES - EMERGENCY DELIVERY 24 HR. NOTICE IAW (C900, SECTION 3 - PARAGRAPH 5) NORTHROP GRUMMAN SYSTEMS CORP., BALTIMORE, MD	4 EACH	_____	_____
0014	SERVICES – EQUIPMENT & TANK INSTALLATION IAW (C-900, SECTION 3 - PARAGRAPH 12) FOR NORTHROP GRUMMAN SYSTEMS CORP., BALTIMORE, MD	1 EACH	_____	_____

0015	SERVICES – EQUIPMENT & TANK REMOVAL IAW (C900, SECTION 3 - PARAGRAPH 12) FOR NORTHROP GRUMMAN SYSTEMS CORP., BALTIMORE, MD	1 EACH	_____	_____
0016	LIQUID NITROGEN, TYPE II, GRADE B, CLASS 1, IAW COMMERCIAL ITEM DESCRIPTION A-A-59503B, DATED 20 OCT 2008 NSN: 6830-00-285-4769 DELIVERED FOB DESTINATION TO U.S NAVAL SHIPYARD PORTSMOUTH, VA			
0016AA	CONTRACT PERIOD 1 1 OCT 2009 THROUGH 30 SEP 2010	30,000 GAL	_____	_____
0016AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	30,000 GAL	_____	_____
0016AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	32,500 GAL	_____	_____
0016AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	35,000 GAL	_____	_____
0016AE	SERVICES – HOT FILL IAW (C900, SECTION 4 - PARAGRAPH 11) U.S NAVAL SHIPYARD PORTSMOUTH, VA	PER OCCURRENCE	_____	_____
0016AF	SERVICES – FILL LINE RESTRICTION ORIFICE IAW (C900, SECTION 4 – PARAGRAPH 10) U.S NAVAL SHIPYARD PORTSMOUTH, VA	1 EACH	_____	_____
0017	LIQUID OXYGEN, TYPE II, GRADE B COMPRESSED GAS ASSOCIATION (CGA) G-4.3 NSN: 6830-01-527-7276 DELIVERED FOB DESTINATION TO U.S NAVAL SHIPYARD PORTSMOUTH, VA			
0017AA	CONTRACT PERIOD 1 1 OCT 2009 THROUGH 30 SEP 2010	228 TNS	_____	_____
0017AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	228 TNS	_____	_____
0017AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	235 TNS	_____	_____
0017AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	250 TNS	_____	_____
0017AE	SERVICES – HOT FILL IAW (C900, SECTION 4 - PARAGRAPH 11) U.S NAVAL SHIPYARD PORTSMOUTH, VA	PER OCCURRENCE	_____	_____
0017AF	SERVICES – FILL LINE RESTRICTION ORIFICE IAW (C900, SECTION 4 – PARAGRAPH 10) U.S NAVAL SHIPYARD PORTSMOUTH, VA	1 EACH	_____	_____

0018	LIQUID OXYGEN, TYPE II, GRADE A IAW MIL-PRF-25508G, DATED 21 NOV 2006 NSN: 9135-00-965-2527 DELIVERED FOB DESTINATION TO ARNOLD AFB, TN			
0018AA	CONTRACT PERIOD 1 1 SEP 2009 THROUGH 30 SEP 2010	650 TNS	_____	_____
0018AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	600 TNS	_____	_____
0018AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	600 TNS	_____	_____
0018AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	600 TNS	_____	_____
0018AE	SERVICES – HOT FILL IAW (C900, SECTION 5 - PARAGRAPH 10) ARNOLD AFB, TN	PER OCCURRENCE	_____	_____
0019	SERVICES - EXPEDITED DELIVERY 24 HR NOTICE IAW (C900, SECTION 5 - PARAGRAPH 4b) ARNOLD AFB, TN	1 EACH	_____	_____
0020	LIQUID NITROGEN, TYPE II, GRADE C IAW MIL-PRF-27401F, DATED 10 JAN 2008 NSN: 9135-00-985-7080 DELIVERED FOB DESTINATION TO DEPARTMENT OF ENERGY (DOE) FLUOR HANFORD, INC., RICHLAND, WA			
0020AA	CONTRACT PERIOD 1 1 NOV 2009 THROUGH 30 SEP 2010	3840 TNS	_____	_____
0020AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	3840 TNS	_____	_____
0020AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	3840 TNS	_____	_____
0020AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	3520 TNS	_____	_____
0020AE	SERVICES – HOT FILL IAW (C900, SECTION 6 - PARAGRAPH 14) DOE FLUOR HANFORD INC., RICHLAND, WA	PER OCCURRENCE	_____	_____
0021	SERVICES - TANK LEASE W/VAPORIZERS – 10 TANKS IAW (C900, SECTION 6 - PARAGRAPH 10) DOE FLUOR HANFORD INC., RICHLAND, WA			
0021AA	CONTRACT PERIOD 1 1 NOV 2009 THROUGH 30 SEP 2010	11 MONTHS	_____	_____
0021AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	12 MONTHS	_____	_____

0021AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	12 MONTHS	_____	_____
0021AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	12 MONTHS	_____	_____
0022	SERVICES - TANK LEASE WITHOUT VAPORIZERS – 3 TANKS IAW (C900, SECTION 6 - PARAGRAPH 10) DOE FLUOR HANFORD INC., RICHLAND, WA			
0022AA	CONTRACT PERIOD 1 1 NOV 2009 THROUGH 30 SEP 2010	11 MONTHS	_____	_____
0022AB	CONTRACT PERIOD 2 1 OCT 2010 THROUGH 30 SEP 2011	12 MONTHS	_____	_____
0022AC	CONTRACT PERIOD 3 1 OCT 2011 THROUGH 30 SEP 2012	12 MONTHS	_____	_____
0022AD	CONTRACT PERIOD 4 1 OCT 2012 THROUGH 30 SEP 2013	12 MONTHS	_____	_____
0023	SERVICES - EMERGENCY DELIVERY 24 HR NOTICE IAW (C900, SECTION 6 - PARAGRAPH 5) DOE FLUOR HANFORD INC., RICHLAND, WA	2 EACH	_____	_____
0024	SERVICES – TANK & EQUIPMENT INSTALLATION IAW (C-900, SECTION 6 – PARAGRAPH 12 & 13) FOR DOE FLUOR HANFORD INC., RICHLAND, WA	13 EACH	_____	_____
0025	SERVICES - TANK & EQUIPMENT REMOVAL IAW (C-900, SECTION 6 - PARAGRAPH 13) FOR DOE FLUOR HANFORD INC. RICHLAND, WA	13 EACH	_____	_____
0026	DETENTION COST, ESTABLISHED IAW CLAUSE F3.10 TRANSPORT TRUCK AND/OR TRUCK AND TRAILER FREE TIME AND DETENTION RATES (AEROSPACE ENERGY) (DESC APR 2006) ** <u>DETENTION IS FOR ALL LOCATIONS</u>	PER ¼ hr.	_____	_____

CLIN 0001, CLIN 0002, and CLIN 0007 SHIP TO: Commander, Anniston Army Depot, AMSTA-AN-MN/OMSD (RMB), 7 Frankford Ave, Anniston, AL 36201-4199

CLIN 0003 SHIP TO: Honeywell Aerospace Corporation, Kansas City Division, 2000 East 95th St., Kansas City, MO 64141-9823

CLIN 0008 SHIP TO: 574th CMMXS/MXDAB, 325 Richard Ray Blvd., Building 165 and 125, Attn: Ms. Dianne Dorsey (478: 327-4184), Robins AFB, GA 31098

CLIN 0009 SHIP TO: U.S. Department Of Energy, Hanford Reservation, 2355 Stevens Dr., Richland, WA 99352

CLIN 0010 SHIP TO: High Energy Laser System Test Facility, Attn: Ms. Sandy McIntosh (505) 679-5594, White Sands Missile Range, NM 88002

CLIN 0011 SHIP TO: Northrop Grumman Systems Corp., Electronic Systems Product Qualification Lab (PQL), MD Route 170, Gate 3A, Baltimore, MD 21240

CLIN 0016 and CLIN 0017 SHIP TO: NORFOLK U.S. NAVAL SHIPYARD, PORTSMOUTH, VA 23709

CLIN 0018 SHIP TO: 704 Mission Support Group/LG, 100 Kindel Drive, Suite C325, Arnold AFB, TN 37389-3325

CLIN 0020 SHIP TO: DOE Fluor Hanford, Inc., 2355 Stevens Drive, Building 1168, Richland, WA 99354

DESCRIPTION/SPECIFICATIONS

C1 SPECIFICATIONS (DESC JAN 1997)

Product to be supplied shall fully meet the requirements of the applicable specification(s) as indicated in the Supply Schedule, except as modified elsewhere in this contract. Unless otherwise indicated by the Contractor, prior to award and in accordance with the EVALUATION OF OFFERS clause, the product offered will be assumed to fully meet the applicable specification(s).

(DESC 52.246-9FT5)

C1.02 DODISS SPECIFICATIONS (DESC OCT 2000)

Unless otherwise specified, the issues of Federal and Military specifications, standards, and related standardization documents and those non-Government standards adopted for Department of Defense use, which are cited in this solicitation/contract, are those listed in the most recent Department of Defense Index of Specifications and Standards (DODISS) and any applicable supplement. The basic DODISS is issued on July 1st every year; supplementals thereto are issued every other month thereafter, those dates being September 1st, November 1st, January 1st, March 1st, and May 1st.

(DESC 52.246-9FT1)

C900 STATEMENT OF OBJECTIVES/WORK AND/OR SPECIFICATIONS (AEROSPACE ENERGY) (DESC APR 2006)

SECTION 1: ANNISTON ARMY DEPOT: LOX and LN2

1. **DESCRIPTION OF REQUIREMENT:** The Defense Energy Support Center (DESC), Defense Logistics Agency, as the Department of Defense (DoD) Integrated Materiel Manager (IMM) for Aerospace Energy products and related services, requires production and delivery of Liquid Nitrogen (LN₂) and Liquid Oxygen (LOX) in support of Anniston Army Depot (ANAD), AL. The Contractor shall provide all production, raw materials, supplies, management, tools, equipment, labor and transportation necessary for the manufacture and delivery of LN₂ and LOX into government owned tanks on an FOB Destination basis. The intended use of the LN₂ is to be used to heat treat/harden metals. The intended use of the LOX is in support of plasma cutting systems and for welding.
2. **PRODUCT SPECIFICATION AND TESTING REQUIREMENTS:**
 - a. LN₂ shall conform to the requirements of classification SG-N of the American Welding Society (AWS) Specification ANSI/AWS A5.32/A5.32M-97, Specification for Welding Shielding Gases. AWS specifications are available on the internet at <http://www.aws.org>.
 - b. LOX shall conform to the requirements of classification SG-O of the American Welding Society Specification ANSI/AWS A5.32/A5.32M-97, Specification for Welding Shielding Gases. AWS specifications are available on the internet at <http://www.aws.org>.
 - c. One copy of the Certificate of Analysis for each sample required by the specification shall accompany each shipment and one copy shall be sent to DESC-QT/QA within three days after the analysis of that sample. The analysis report shall be emailed to tech.prop@dla.mil or faxed to the attention of DESC-Q at (210) 925-8048.
3. **PRODUCT ORDERS:** The DESC Contracting Officer will issue blanket Delivery Orders (DD Form 1155) for obligation of funds for orders to be issued quarterly by the appointed Ordering Officer IAW Clause I211, ORDERING. The individual orders placed by the appointed Ordering Officer will designate the specific quantity to be delivered at the customer location specified in the contract.
4. **PRODUCT DELIVERY LEAD-TIME:** Routine product deliveries shall be accomplished within four (4) days after receipt of an order from the appointed Ordering Officer, unless a longer period of time is stated on the order.
5. **DELIVER PRODUCT TO:**

SHIP TO: Commander, Anniston Army Depot
AMSTA-AN-MN/OMSD (RMB)
7 Frankford Ave
Anniston, AL 36201-4199
6. **PRODUCT DELIVERY HOURS:** Routine deliveries shall arrive at the customer's location between 7:00 am to 2:00 pm, Monday through Thursday with every other Friday. ANAD shall advise at startup, which Friday's deliveries will not be accepted.

7. DESCRIPTION OF GOVERNMENT OWNED TANKS:a. Liquid Nitrogen:

<u>Location</u>	<u># of tanks</u>	<u>Tank Capacity - Gallons/Tons</u>	<u>MAWP*</u>
Building 108	1	3,000 gal /approx. 10.14 tons	100-150 psig

b. Liquid Oxygen:

<u>Location</u>	<u># of tanks</u>	<u>Tank Capacity – Gallons/Tons</u>	<u>MAWP</u>
Building 400	1	1,500 gal/approx. 7.15 tons	100-150 psig
Building 413	1	1,000 gal/approx. 4.76 tons	300 psig
Building 5	1	1,000 gal/approx. 4.76 tons	100-150 psig

*Maximum Allowable Working Pressure

8. CONTRACTOR FURNISHED EQUIPMENT: Contractor shall provide offload hoses with a minimum length of 25 feet. Contractor shall ensure proper interface between tanks and offloading unit.
9. INSPECTION AND ACCEPTANCE: Inspection for quality shall be performed at origin. Quantity determination and acceptance shall be at destination.
10. METHOD OF MEASUREMENT: Measurements shall be made at the receiving activity by calibrated flow meter in accordance with the clause entitled DETERMINATION OF QUANTITY.
11. HOT FILLS: Occasionally, the Contractor may be required to perform a “Hot Fill” in order to cool-down and refill any tank that has become empty and is warm.
12. SECURITY REQUIREMENTS: The Contractor shall comply with all applicable (1) federal, state, and local environmental statutes, instructions, manuals, handbooks, regulations, guidance, policy letters, and rules (including all changes and amendments), and (2) Presidential Executive Orders, in effect on the date of issue of this award.
- a. For access to the premises, the delivery truck driver shall have a valid driver’s license and be a US citizen.
- b. ANAD is currently operating on a heightened state of security awareness and enforcement due to possible terrorist threats. Due to this heightened state of security, it is imperative that no unauthorized materials of any type be brought onto or left unattended on the installation. Further, all Contractor, subcontractor, and material supplier employees are prohibited from bringing personal belongings of any nature onto the installation if such items are to be left unattended at any time.

SECTION 2: VARIOUS LOCATIONS: Liquid Argon

1. DESCRIPTION OF REQUIREMENT: The Defense Energy Support Center (DESC), Defense Logistics Agency (DLA), as the Department of Defense (DoD) Integrated Materiel Manager (IMM) for Aerospace Energy products and related services, requires production and delivery of Liquid Argon into Contractor owned equipment at one location, and Government owned equipment at four locations. The Contractor(s) shall provide the product FOB Destination to: two sites within Honeywell Corporation Facility, Department of Energy (DOE) Kansas City, MO, two sites within Robins AFB, GA, two sites within Anniston Army Depot, AL, one site within Richland Testing Facility, WA, and one site within White Sands Missile Range, NM. The Contractor(s) shall provide all production, raw materials, supplies, management, tools, equipment, labor and transportation necessary for the manufacture and delivery of the Liquid Argon. The Liquid Argon will be delivered into Contractor provided tanks. The Contractor shall provide conversion equipment to convert Liquid Argon to gas for delivery into the user’s pipeline distribution system at Department of Energy (DOE) Kansas City, MO which is managed by Honeywell Corporation. Liquid Argon will be delivered into Government owned tanks at the other four locations. The intended use of this product at DOE Kansas City is for welding parts to engines and equipment, as part of the Department Of Energy Reservoir Program. At White Sands Missile Testing Range, NM, Liquid Argon is used for the High Energy Laser System Testing Facility (HELSTF) as an inert solution during and after weapons testing. At Anniston Army Depot, AL, and Richland Testing Facility, WA, Liquid Argon will be used for environmental restoration. At Robins AFB, GA, Liquid Argon will be used in support of depot maintenance of the C-5, C-17, F-15, C-130 and C-130E aircraft, analytical instrumentation and other programs.
2. PRODUCT SPECIFICATION AND TESTING REQUIREMENTS:
- a. Offered product shall conform to the requirements of the specifications listed below.
- (1) For DOE Kansas City, MO: Type II, Grade B, MIL-PRF-27415B, Argon, Liquid, dated 8 Feb 07.
- (2) For Anniston Army Depot, Anniston, AL: Liquid Argon offered under this solicitation shall conform to the requirements of Grade LW of DESC Purchase Description, Attachment 5, entitled Argon Low Water and Ultrapure, dated 11 May 2005, with the following exceptions. LW grade for Water, ppm by volume max should read 2.0 and Dew Point to read -70 C (-94 F).

- (3) For Robins Air Force Base, GA: Type II, Grade B, MIL-PRF-27415B, Argon, Liquid, dated 8 Feb 07.
- (4) For Richland Testing Facility, WA: Type II, Grade B, MIL-PRF-27415B, Argon, Liquid, dated 8 Feb 07.
- (5) For White Sands Missile Range, NM: Type II, Grade A, MIL-PRF-27415B, Argon, Liquid, dated 8 Feb 07.

b. In addition to the reports required elsewhere within this contract, one copy of the Certificate of Analysis for each sample required by the specification shall be sent to DESC-QT/QA within three days after the analysis of that sample. The analysis report shall be emailed to tech.prop@dla.mil or faxed to Attention: DESC-Q at (210) 925-8048.

3. PRODUCT DELIVERY INFORMATION AND SCOPE OF WORK:

a. DOE Kansas City:

- (1) The Contractor shall provide a sufficient quantity of liquid argon as well as technical expertise, manpower, tanks, equipment, and all required maintenance and repair to the Contractor-furnished equipment, in order to ensure a continuous, uninterrupted supply of gaseous argon to the customer sites designated below except from December 23 through January 1. The Contractor-furnished conversion facility may be shutdown for scheduled maintenance activities between December 23 and January 1 of each year when the DOE Kansas City plant is otherwise not in operation. However, the customer requires a two (2) week notification prior to the DESC Contractor shutting down his equipment in order to perform maintenance and repair during this timeframe.

Honeywell Aerospace Corporation
 Kansas City Division
 2000 East 95th St.
 Kansas City, MO 64141-9823

- i. Site 1: North of the main plant building, Reservoir Facility, outside column AA-37.
 - ii. Site 2: East side of Building 96, outside of the chain link fence. Building 96 is the first building north of the Technology Training building.
 - iii. Both sites are in the Northeast Quadrant of DOE Kansas City.
- (2) The Contractor shall insure a continuous, uninterrupted supply of Gaseous Argon, 24 hours a day, 7 days a week, at the operating conditions specified below:
 - i. Site 1 shall maintain an operating pressure of 200 psig at 70°F.
 - 1) Peak flow rate of 6,000 scfh.
 - 2) Average flow rate is 2,000 scfh.
 - ii. Site 2 shall maintain an operating pressure of 100 psig at 70°F.
 - 1) Peak flow rate of 1,000 scfh
 - 2) Average flow rate is 200 scfh
 - (3) Upon issuance of a blanket delivery order and utilizing instrumentation mandated by paragraph 5, INSTRUMENTATION REQUIREMENTL DOE Kansas City (ONLY), of this SOO, the Contractor shall maintain sufficient inventories of Liquid Argon at both sites needed to support peak flow rates referenced in Para 3a(2) i and ii. Systems shall be capable of achieving peak flow rates for approximately 4 hours in a 24-hour period.
 - (4) Contractor provided tanks and conversion equipment shall be designed and maintained in a manner that minimizes evaporative losses. Offeror's technical proposal shall include a statement on the nominal evaporation rate of their system design and which aspects of the design and operation contribute to minimizing the losses.

b. Anniston Army Depot, Anniston, AL:

- (1) The Contractor shall provide Liquid Argon beginning 1 October 2009 at two sites within Anniston Army Depot at:

Commander, Anniston Army Depot
 AMSTA-AN-MN/OMSD (RMB)
 7 Frankford Ave
 Anniston Army Depot, AL 36201-4199

- i. Site 1: Southeast side of the Depot, at the rear end of Building 128, Tank Capacity is 525 gallons or 6,000 pounds.
- ii. Site 2: Southeast side of the Depot at the rear end of Building 147, Tank Capacity is 1000 gallons or 11,500 pounds.

iii. The tanks are Government owned equipment, rated at a Maximum Allowable Working Pressure (MAWP) of 75 psig at site 1, and MAWP of 100 psig at site 2.

(2) The Contractor shall deliver Liquid Argon within 72 hours of the Ordering Officer issuing the order.

c. Robins Air Force Base, GA:

(1) The Contractor shall provide Liquid Argon beginning 1 October 2009 at two sites within Robins AFB:

574th CMMXS/MXDXAB
325 Richard Ray Blvd.
Building 165 and 125
Attn: Ms. Dianne Dorsey (478: 327-4184)
Robins AFB, GA 31098

- i. Site 1: Richard Ray Blvd, East side of Building 165, will be operating at MAWP 100 psig,
- ii. Tank Capacity is 900gls or 10,467lbs (10,500)
- iii. Site 2: Richard Ray Blvd, West side of Building 125 will be operating at MAWP 150 psig.
- iv. Tank Capacity is 1,500gls or 17,445lbs (17,500)

(2) The Contractor shall deliver Liquid Argon within 72 hours of the Ordering Officer issuing the order.

d. Richland Testing Facility, WA:

(1) The Contractor shall provide Liquid Argon beginning 1 October 2009 at one site within Richland Testing Facility:

U.S. Department Of Energy
Hanford Reservation
2355 Stevens Dr.
Richland, WA 99352

(2) The tank is located at 2355 Stevens Drive, behind the weight station at the South Gate entrance. Tank capacity is 6000gls or 69,780lbs, operating at MAWP 180 psig.

(3) The Contractor shall deliver Liquid Argon within 72 hours of the Ordering Officer issuing the order.

e. White Sands Missile Range, NM:

(1) The Contractor shall provide Liquid Argon beginning 1 October 2009 at White Sands, Missile Range/(HELSTF), NM:

High Energy Laser System Test Facility
Attn: Ms. Sandy McIntosh (505) 679-5594
White Sands Missile Range, NM 88002

(2) The tank is located on White Sands Missile Range at Mile Marker 186. Tank capacity is 6,000gls or 69,780lbs, operating at MAWP 250 psig.

(3) The Contractor shall deliver Liquid Argon within 72 hours of the Ordering Officer issuing the order.

4. GOVERNMENT FURNISHED PROPERTY AND SERVICES: DOE Kansas City (ONLY)

a. Real property at DOE Kansas City is available at both sites for the placement of Contractor owned/Contractor operated equipment as described below:

- (1) Site one: Located north of the main plant building, Reservoir Facility, outside column AA-37, an area of approximately 25ft. X 12ft. is available for installation of equipment. Access to this area is limited by overhead chilled water piping approximately 15ft. above the ground and by a wall and piping support towers on the sides, an opening of 12ft. wide X 15ft. high allows access to the site.
- (2) Site two: Located immediately east of building 96, outside of the chain link fence. An area of approximately 9ft. X 9ft. is available for installation of equipment. Access to the area is by means of an asphalt road.

- b. DOE Kansas City shall supply the following utility services at each site as required. Each service shall terminate at a single point at each site and the Contractor shall continue the service to the local use point(s). Electricity, steam, or water shall NOT be the primary heat source for vaporization.

- (1) Local telephone: 1 telephone connection (land line)
- (2) Water: Water temperature varies from 40°F in the winter to 80°F in the summer. Available pressure is 70 psig. A ¾ inch water connection is located nearby, however, prior notice will be required for access to the water connection.
- (3) Electricity: Honeywell makes available 120V single-phase power (15 amp circuit). Any reduced voltage shall be the responsibility of the Contractor through secondary distribution load centers. All electrical service shall meet National Electric Codes.
- (4) Alarm-point wiring connections: Customer shall provide wiring and connection to Honeywell Direct Digital Control alarm system. Contractor provided alarm points shall be normally closed so that contacts will be open in the alarm condition or in the event of a power failure.

5. INSTRUMENTATION REQUIREMENT: DOE Kansas City (ONLY)

- a. Each tank system shall include a landline telemetry unit for communicating tank pressure and tank level to the Contractor and customer. Set points on the telemetry unit shall be adjusted to allow adequate travel time to the plant. The tank system shall include Rosemount differential pressure transducers, or equivalent, for tank pressure and tank level. Each transducer shall provide a proportional 4-20mA, 0-10 VDC output for connection to the Johnson Controls DDC plant system using a single isolator.
- b. Monitoring instruments on the gas supply lines shall include a temperature sensor, a gas flow meter and a plant supply pressure transducer. Each of these devices shall be compatible with the Johnson Controls DDC Plant system with 4-20mA outputs.
- c. The Contractor shall ensure the Contractor-provided sensors are compatible with Honeywell's DDC Network. Honeywell will make the tie-ins. The Contractor shall supply the flow meter (compensated for pressure and temperature) and pressure transducers (tank level and pressure) with Hart Communication capability and 4-20mA analog output. The Contractor shall supply the ranges for the pressure transducers and flow meter.

6. CONNECTIONS: DOE Kansas City (ONLY)

- a. The regulators manifold shall interface to a customer supplied stainless steel flange attached to the 2 inch copper pipe at site 1, north side of post AA-37 and to 1 inch O.D. stainless steel pipe at site 2, east side of Building 96. Contractor shall verify all connections by type and size prior to construction.
- b. Contractor shall provide a gas sampling port at the supplier side of the main isolation valve to both of the piping systems. Sampling ports shall consist of an isolation valve, a pressure gauge, and a ¼ inch Swagelok QC-4 quick disconnect fitting.
- c. Emergency supply connections shall be provided at the interfaces between the customers's piping systems and the Contractor's supply systems. The connection shall accommodate a standard Argon Liquid Dewar connection, CGA 580-0.985-14 NGO RH INT Thread.

7. CONTRACTOR EQUIPMENT REQUIREMENTS: DOE Kansas City (ONLY)

- a. Contractor's equipment and installation shall meet all construction codes and standards currently in effect at the site to include seismic codes as specified in the Honeywell Construction Safety manual, KCD-2570.
- b. Honeywell's General Criteria (2008), Earthquake Design Requirements:

General: Every Kansas City Plant (KCP), building and every portion thereof shall be designed and constructed to resist stresses produced by lateral forces as provided by requirements of DOE STD 1020-2002 and the guidelines for the migration of Natural Phenomena Hazards (NPH) for nuclear facilities in conjunction with NPH DOE standard/guides RP 1, 2.1A, 3, 4 and 5. The ground motion parameters shall be based on the "Site Specific Seismic Hazards Analysis at the DOE KCP" (KCP-613-5505 published October 1995) with due regards to the limitations imposed on this procedure by the general procedure of International Building Code (IBC) 2000. These limitations/procedures are described in section 1615.1 and 1615.2 of IBC 2000. Specifically, earthquake loads shall be determined from the applicable portions of Chapter 16. In the application of this section of the code, the ground motion spectral ordinance at 5% damping at KCP for 1-second period and short-period are:

$$\begin{aligned} \text{1-second period (S}_1\text{)} &= 0.102\text{g} \\ \text{short-period (S}_s\text{)} &= 0.146\text{g} \end{aligned}$$

The Site Class in 'Class C', the Seismic Use Group is 'Group B', and the Seismic Importance Factor is 1.25. The Actual design spectral accelerations are then 2/3S1 (1 sec. Period) and 2/3s (short period) per IBC 2000. The corresponding -design values are then:

$$SD_1 = 2/3 \times 102g = 0.068g$$

$$SD_s = 2/3 \times 146g = 0.097g$$

- c. The Contractor shall supply Honeywell with shop drawings indicating the location of anchor bolts for securing any and all tanks, physical dimensions of the tanks, and the weight of tanks filled and empty.
- d. Any and all tanks and the associated equipment shall be designed to resist forces of gravity, wind, and seismic loads in accordance with the latest edition of the Uniform Building Code.
- e. Tanks shall be ASME pressure vessels and shall be submitted with calculations verifying the structural capacity of the tank. Calculations shall be performed and stamped by a professional engineer registered in the state of Missouri. The Contractor shall include feedback for the design of anchorage to the customer-supplied foundation for all load cases.
- f. Contractor's equipment shall remain the property of the Contractor and shall be removed within 30 days after termination of the contract, in full cooperation with the succeeding Contractor and customer so as to avoid interruption of product supply.
- g. Contractor shall maintain all equipment provided by them on the Honeywell site at Contractor's expense.
- h. Contractor's equipment shall be kept in good operating condition and appearance.
- i. Contractor shall be capable of providing service personnel on a 24-hour per day basis and with a response time of not more than three hours from receipt of verbal notification.
- j. Contractor shall insert below the telephone numbers and names of personnel to be contacted in the event of an emergency and shall be responsible for keeping customer informed of changes to this data.

	Name(s)	Telephone Number(s)
Emergency, 24 Hour Service		
Product Ordering and Delivery		
Contractor's Area Manager		
Corporate Office Contact		

- k. Contractor supplied equipment shall be provided with over pressure protection and all safety devices required by OSHA regulations, including electrical shock. All moving parts shall be protected with properly designed guards.

8. EQUIPMENT INSTALLATION REQUIREMENTS: DOE Kansas City (ONLY). If the Contractor installs any equipment on the Government facilities/sites, the following criteria must be adhered to:

- a. Contractor(s) shall submit a complete safety plan to Honeywell engineers prior to the start of any on-site work. Work will not begin prior to approval by the DESC Contracting Officer (CO) and coordinated with customer.
- b. Contractor shall coordinate with the current argon supplier, through the DESC representatives and the customer, for equipment removal and installation.
- c. Contractor shall give a minimum 3 weeks notice to the DESC CO prior to the installation of new equipment.
- d. Contractor shall establish a temporary system to maintain the rated argon flow and pressure to each site during the installation of new equipment, beginning at the effective date of the contract that is capable of delivering product no later than 1 September 2009.

- e. Installation and removal of equipment shall be performed during a planned plant shutdown, unless otherwise negotiated and approved in writing by the DESC CO, who will coordinate with customer.
- f. Contractor shall perform testing of all installed equipment to insure that the system is capable of delivering argon gas at the specified quality prior to tie-in to pipeline distribution system. DESC will notify the Contractor when the Honeywell test lab has approved the quality of argon in both systems. Approval is required by DESC CO prior to connection to the plant distribution system. General Eastern chilled mirror hygrometers calibrated to a -64°C dew point shall be used by Honeywell technicians to assure that the moisture content is less than 8 ppm prior to any connection to the plant distribution systems. Hydrocarbon content shall be tested using a hydrocarbon test kit. Any system or sub-system to be connected to the Honeywell plant piping shall be evacuated, purged, tested and accepted by Honeywell lab technicians and utility engineer prior to opening of the valve to the plant distribution piping system. Tests shall be repeated on the plant system immediately after connection.
- g. Contractor shall provide to DESC, within 30 days after completion of installation, four complete copies of all engineering design and installation drawings for the project as completed on site. The Contractor shall submit one of the four sets electronically as .dwg files (readable with AutoCAD software).
- h. Contractor shall submit two sets of operation and maintenance manuals to the utilities engineer for all argon equipment installed at each site.

9. INSTALLATION, MAINTENANCE AND REMOVAL OF CONTRACTOR-PROVIDED TANKS AND EQUIPMENT:

Contractor shall install their Contractor-provided tanks/equipment at the beginning of the contract period, maintain their Contractor-provided tanks/equipment during the contract period, and remove their tanks/equipment at the end of the contract period at the Contractor's expense. Contractor provided tanks may be chilled through initial deliveries, but initial deliveries into Contractor provided tanks shall not qualify as a "Hot Fill" service. The Contractor shall coordinate with the current supplier to effect removal of current equipment and installation of new equipment, or to retain the current equipment. The Contractor may be required to provide a temporary system during change out of existing system or tanks to eliminate any delay in supply of product.

10. SECURITY AND SAFETY REQUIREMENTS:

- a. Contractor personnel working at or making deliveries to the DOE Facilities/Plants shall be U.S. citizens, have a valid U.S. driver's license or other photo proof of identification and must check through the main security post (Main Guard Gates at each facility). A telephone and number will be posted with POC to escort the driver into DOE facilities.
 - b. All Contractor personnel shall comply with all current federal, state, local safety standards when they are on DOE site as specified in the Construction Safety Manual.
 - c. Contractor shall provide a copy of a safety analysis and review per DOE Order 5480.1B prior to completion of any installation project.
11. HOT FILLS: Occasionally, the Contractor may be required to perform a "Hot Fill" in order to cool down and refill any tank that has gone empty and warm at the HELSTF Facility, White Sands, NM.
12. METHOD OF MEASUREMENT: Delivery truck shall have a calibrated flow meter for determining product off-load quantities at delivery points IAW Clause F1.36. Unit of issue shall be in pounds (lbs) reported in whole numbers. If the delivery truck meter registers in other than pounds, the following conversion factors shall apply to determine invoice quantity: 1 pound of Liquid Argon is equal to 0.454 kilograms or 9.67 standard cubic feet of gaseous Argon (at 70 degrees F and 1 atm) or 0.086 gallons of Liquid Argon.

SECTION 3: NORTHROP GRUMMAN SYSTEMS CORP. BALTIMORE, MD: LN₂

1. DESCRIPTION OF REQUIREMENT: The Defense Energy Support Center (DESC), Defense Logistics Agency, as the Department of Defense (DoD) Integrated Materiel Manager (IMM) for Aerospace Energy products and related services, requires production and delivery of Liquid Nitrogen (LN₂) to Northrop Grumman Corp., Baltimore, MD. The Contractor shall provide all production, materials, supplies, management, tools, equipment, labor and transportation necessary for the manufacture and delivery of LN₂ from the Contractor's facility into one Contractor-provided tank at Northrop Grumman Corp., Baltimore, MD on an FOB Destination basis. The LN₂ will be used for purging and cooling of products in thermal vacuum test chambers, to control the temperatures of units/systems being tested, and to cool cryogenic panels and other surfaces in the vacuum chambers for the Defense Meteorological Satellite Program (DMSP) Block 5 Telescope, Expo and Phoenix programs, Space Based Infra-Red System (SBIRS), and Space Based Radar (SBR).
2. PRODUCT SPECIFICATION AND TESTING REQUIREMENTS:
- a. LN₂ shall conform to the requirements of TYPE II, Grade B of specification MIL-PRF-27401F, dated 10 Jan 2008, Propellant Pressurizing Agent, Nitrogen. The optional specification tests for argon, carbon dioxide, carbon monoxide and particulate content are not required.

- b. One copy of a certificate of analysis for each sample required by the specification shall accompany each shipment and one copy shall be sent to DESC-QT/QA within three days after the analysis of that sample. The analysis report shall be e-mailed to tech.prop@dla.mil or faxed to the attention of DESC-Q at (210) 925-8048.
- 3. **PRODUCT ORDERS:** The DESC Contracting Officer will issue blanket Delivery Orders (DD Form 1155) for obligation of funds for orders to be issued during that specific timeframe by the appointed Ordering Officer IAW Clause I211, ORDERING. The individual orders placed by the appointed Ordering Officer will designate the specific quantity to be delivered at the customer location specified in the contract.
- 4. **PRODUCT DELIVERY LEAD-TIME:** LN₂ product shall be delivered within 48 hours after receiving an order from the appointed Ordering Officer, unless a longer period of time is stated on the order. The Customer is not able to allow a longer period of advance notification due to the frequency of changes in their requirements.
- 5. **EMERGENCY DELIVERIES:** Occasional emergency deliveries may be required within 24 hours notice, 2 to 4 times per year.
- 6. **DELIVER PRODUCT TO:**

Northrop Grumman Systems Corp.
Electronic Systems Product Qualification Lab (PQL)
MD Route 170, Gate 3A
Baltimore, MD 21240
- 7. **PRODUCT DELIVERY HOURS:** Deliveries shall arrive at the Customer’s location seven (7) days per week, 24 hours per day. The Contractor must be able to make deliveries at any time due to the nature of the LN₂ testing which could require additional product after normal business hours.
- 8. **SPECIAL DELIVERY CONDITIONS:** Contractor’s driver shall notify the PQL chamber operators at 410-765-3603/3602 when delivery is near the plant destination at Northrop Grumman Baltimore. If the LN₂ product cannot be delivered at the agreed delivery time, the driver shall contact Bob Spencer at 410-765-2541/3602.
- 9. **INSPECTION AND ACCEPTANCE:** Inspection for quality shall be performed at origin. Quantity determination and acceptance shall be at destination.
- 10. **METHOD OF MEASUREMENT:** Quantity determinations shall be made at the receiving activity either by calibrated flow meter or weight using calibrated scales.
- 11. **DESCRIPTION OF CONTRACTOR-PROVIDED TANK/EQUIPMENT:**

<u>Location</u>	<u>Number of Tanks</u>	<u>Storage Capacity (gallons/tons)</u>	<u>Min./Max. Line Pressure</u>
Product Qualification Laboratory	1	9,000-11,000 gallons/approx 30-37 tons	20-70 psi

The Contractor shall supply one vertical tank with a capacity of 9,000 to 11,000 gallons on the existing pad with pressure building coil for automatic tank pressure regulation. Tank working pressure is to be adjustable between 20 and 70 psig, normal operating pressure is 35-45 psig. The tank requires a vaporizer with hookups sufficient to supply up to 6,500 SCFH gaseous nitrogen for 8 hour periods to the chambers inside the PQL building. This tank is to have LN₂ withdrawal port and valve to allow a Dewar to be filled using a ¾ inch ID flex hose. The Dewar and flex hose are supplied by Northrop Grumman.

- 12. **INSTALLATION, MAINTENANCE AND REMOVAL OF CONTRACTOR-PROVIDED TANKS AND EQUIPMENT:** Contractor shall install their Contractor-provided tanks/equipment at the beginning of the contract period, maintain their Contractor-provided tanks/equipment during the contract period, and remove their tanks/equipment at the end of the contract period at the Contractor’s expense. Contractor provided tanks may be chilled through initial deliveries, but initial deliveries into Contractor provided tanks shall not qualify as a “Hot Fill” service. The Contractor shall coordinate with the current supplier to effect removal of current equipment and installation of new equipment, or to retain the current equipment. The Contractor may be required to provide a temporary system during change out of existing system or tanks to eliminate any delay in supply of product.
- 13. **SECURITY REQUIREMENTS:** Contractor personnel must be U.S. citizen, have a valid driver’s license, and delivery personnel must be escorted to enter building.

SECTION 4: U.S. NAVAL SHIPYARD PORTSMOUTH, VA: LN2 and LOX

- 1. **DESCRIPTION OF REQUIREMENT:** The Defense Energy Support Center (DESC), Defense Logistics Agency, as the Department of Defense (DoD) Integrated Materiel Manager (IMM) for Aerospace Energy products and services, requires production and delivery

of Liquid Nitrogen (LN₂) and Liquid Oxygen (LOX) to Norfolk U.S. Naval Shipyard, Portsmouth, VA. The Contractor shall provide all supplies, management, tools, equipment, labor, and transportation necessary for the manufacture and delivery of LN₂ and LOX from the Contractor's facility. The LN₂ and LOX will be used in welding operations on Navy submarines, general repairs, and spot welding on other Government equipment as part of the U.S. Navy and Department of Defense programs. All deliveries shall be FOB Destination into Government-owned tanks at Norfolk U.S. Naval Shipyard, Portsmouth, VA.

2. PRODUCT SPECIFICATION REQUIREMENTS:

a. A representative sample drawn from each shipping container of Liquid Nitrogen (NSN 6830-00-285-4769) shall be analyzed and meet the requirements of Type II, Grade B, Class 1, Commercial Item Description A-A-59503B, dated 20 Oct 2008.

b. A representative sample drawn from each shipping container of Liquid Oxygen (NSN 6830-01-527-7267) shall be analyzed and meet the requirements of Compressed Gas Association (CGA) G-4.3. Copies of CGA standards may be obtained from the Compressed Gas Association, 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923. Electronic copies of CGA standards may be obtained from <http://www.cganet.com>.

c. One copy of a Certificate of Analysis for each sample required by the specification shall be sent to DESC-QA/QT within three days after the analysis of that sample. The lab report shall be emailed to tech.prop@dla.mil, or faxed to the attention of DESC-Q at (210) 925-8048.

3. PRODUCT DELIVERY HOURS: Deliveries of product shall be accomplished between 0720 through 1500 hours, Monday – Friday, as scheduled, excluding federal holidays.

4. PRODUCT DELIVERY LEAD-TIME: The Contractor shall deliver to destination within 48 hours after delivery notification from Norfolk U.S. Naval Shipyard.

5. PRODUCT ORDERS: The DESC Contracting Officer shall issue blanket Delivery Orders (DD Form 1155) for obligation of funds for orders to be issued during that specific timeframe by the appointed Ordering Officer IAW Clause I211, ORDERING. The individual orders placed by the appointed Ordering Officer will designate the specific quantity to be delivered at the customer location specified in the contract.

6. SHIP PRODUCT TO:

NORFOLK U.S. NAVAL SHIPYARD
PORTSMOUTH, VA 23709

7. INSPECTION AND ACCEPTANCE: Inspection for quality shall be performed at origin. Quantity determination and acceptance shall be at destination.

8. METHOD OF MEASUREMENT: Method of measurement shall be by a calibrated flow meter on the delivery truck at destination with the appropriate conversion factors.

9. DESCRIPTION OF GOVERNMENT STORAGE TANKS:

a. Storage vessel for **Liquid Nitrogen**, location and capacities are as follows:

Location	# of Tanks	Storage Capacity (gallons)	MAWP
South side of Building 202	(1)	3,000 gallons	80 psig

b. Storage vessel for **Liquid Oxygen**, location and capacities are as follows:

Location	# of Tanks	Storage Capacity (gallons)	MAWP
Northwest Corner of Building 163	(1)	6,000 gallons	175 psig

10. FILL LINE RESTRICTION ORIFICE: The Service Technical Team has confirmed that according to their interpretation of CGA position statement PS-8-2003, the tank design and operating procedures for tanks offered for filling under this contract should adequately protect against over-pressurization during filling. If it is determined during supplier site visits or upon review of tank technical information that additional overpressure protection is required, the successful offeror shall be required to provide and install the additional tank over-pressurization protection. Contractor may propose to install an adequately sized restriction orifice on the tank fill line. Contractor shall be paid a unit price per tank for this service under the CLIN titled "Services – FILL LINE RESTRICTION ORIFICE". Note – Orifices shall not be installed on Government-owned storage tanks prior to coordinating planned tank modification with the activity that physically possesses the tank(s).

11. HOT FILLS: Occasionally, the Contractor may be required to perform a "Hot Fill" in order to cool-down and refill any tank that has gone empty and is warm.

12. SECURITY AND SAFETY REQUIREMENT:

- a. Contractor personnel working at or making deliveries to the Norfolk U.S. Naval Shipyard, Portsmouth, VA must be a United States citizen, have a valid U.S. driver's license, have a Social Security Number, proof of date and place of birth, a completed I-9 Form and must check through the main security post.
- b. All Contractor personnel shall comply with all current federal, state, local and facility safety standards when they are on Norfolk Naval Facility as specified in the U.S. Navy Construction Safety Manual.

SECTION 5: ARNOLD AFB, TN: LOX

1. DESCRIPTION OF REQUIREMENT: The Defense Energy Support Center (DESC), Defense Logistics Agency, as the Department of Defense (DoD) Integrated Materiel Manager (IMM) for Aerospace Energy products and services, requires production and delivery of Liquid Oxygen (LOX) to Arnold AFB, TN. The Contractor shall provide all supplies, management, tools, equipment and labor necessary for the manufacture and delivery of LOX from the Contractor's facility. The intended use of the LOX is in support of multiple test cells at Arnold AFB, TN for various purposes, i.e., oxidizer for missile propellants and testing of rocket engines. All deliveries shall be delivered FOB Destination into Government-provided tanks at Arnold AFB, TN.

2. PRODUCT SPECIFICATION AND TESTING REQUIREMENTS:

a. LOX shall conform to the requirements of TYPE II, Grade A of specification MIL-PRF-25508G, Propellant Oxygen, dated 21 November 2006. The particulate test specification in Table I of the specification is required.

b. In addition to the reports required elsewhere within this contract, one copy of a Certificate of Analysis for each sample required by the specification shall be sent to DESC-QT/QA within three days after the analysis of that sample. The analysis report shall be e-mailed to tech.prop@dla.mil or faxed to the attention of DESC-Q at (210) 925-8048.

3. PRODUCT ORDERS: The DESC Contracting Officer will issue blanket Delivery Orders (DD Form 1155) for obligation of funds for orders to be issued during that specific timeframe by the appointed Ordering Officer IAW Clause, I211 ORDERING. The individual orders placed by the appointed Ordering Officer will designate the specific quantity to be delivered at the customer location specified in the Contract.

4. PRODUCT DELIVERY LEAD-TIME:

a. Product shall be delivered within 48 hours after receipt of an order from the appointed Ordering Officer, unless a longer period of time is stated on the order.

b. Expedited product deliveries shall be accomplished within 24 hours after receipt of an order from the appointed Ordering Officer. Fewer than two expedited deliveries are expected within each year.

5. DELIVER PRODUCT TO:

704 Mission Support Group/LG
100 Kindel Drive, Suite C325
Arnold AFB, TN 37389-3325

6. PRODUCT DELIVERY HOURS:

a. Routine deliveries shall arrive at the customer's location within the requested time between 0700 - 2100 hours, Monday through Friday, as scheduled, excluding federal holidays.

b. Expedited delivery hours: All hours of the day including routine delivery hours.

7. INSPECTION AND ACCEPTANCE: Inspection for quality shall be performed at origin. Quantity determination and acceptance shall be at destination.

8. METHOD OF MEASUREMENT: Quantity will be determined at destination using a calibrated scale. Certified scales are located at Warehouse #1 (Bldg. 1476), 0700 - 2200 hours, Monday through Friday.

9. DESCRIPTION OF GOVERNMENT-OWNED TANKS: LN₂ Storage tanks location and capacities are as follows:

Number of

<u>Location</u>	<u>Tanks</u>	<u>Storage Capacity (gallons/tons)</u>	<u>MAWP**</u>
Aeropropulsion Test Unit (APTU), Bldg 579	1 ea	3,000 gallons (approx. 14 tons), vertical	1600 psig
APTU, Bldg 579	1 ea	1,000 gallons (approx. 5 tons), sphere	4200 psig
Mobile Trailer (various locations)	1 ea	6,000 gallons (approx. 28 tons), vertical	45 psig

**MAWP (Maximum Allowable Working Pressure)

- The interface for each of the LOX Tanks is a three inch diameter flexible cryogenic hose and connector (3" Military Specification and Standard Industry Type) with right-handed threads.
 - Multiple delivery points (from single delivery trucks) are required over the life of the contract.
10. HOT FILLS: Occasionally, the contractor may be required to perform a "Hot Fill" in order to cool-down and refill any tank that has gone empty and is warm.
11. SECURITY REQUIREMENTS: For access to the premises, Contractor's driver must obtain a pass from AEDC Security Forces at the Vendor's Delivery Gate (Gate # 2). Drivers shall be escorted to the LOX Tank Storage.

SECTION 6: DOE FLUOR HANFORD, WA: LN₂

1. DESCRIPTION OF REQUIREMENT: The Defense Energy Support Center (DESC), Defense Logistics Agency (DLA), as the Department of Defense (DOD) Integrated Materiel Manager (IMM) for Aerospace Energy products and related services, requires production and delivery of Liquid Nitrogen (LN₂) to the Department of Energy (DOE) facility at Richland, WA that is currently managed by Fluor Hanford, Inc. The Contractor shall provide all supplies, management, tools, equipment, transportation and labor necessary for the manufacture and delivery of LN₂, to the customer location designated in the schedule. The LN₂ will be used for Research and Development, site remediation, and calibration. All deliveries shall be FOB Destination into 14 Contractor-provided tanks and 4 Government-owned tanks.
2. PRODUCT SPECIFICATION AND TESTING REQUIREMENTS:
 - a. LN₂ shall conform to the requirements of Type II, Grade C of specification MIL-PRF-27401F, Propellant Pressuring Agent, Nitrogen, dated 10 Jan 08. The optional specification tests for particulate content, argon, carbon dioxide and carbon monoxide are NOT required.
 - b. In addition to the reports required elsewhere within this contract, one copy of a Certificate of Analysis for each sample required by the specification shall be sent to DESC-QT/QA within three days after the analysis of that sample. The analysis report shall be e-mailed to tech.prop@dla.mil or faxed to the attention of DESC-QA/QT at (210) 925-8048.
3. PRODUCT ORDERS: The DESC Contracting Officer will issue blanket Delivery Orders (DD Form 1155) for obligation of funds for orders to be issued during that specific timeframe by the appointed Ordering Officer IAW Clause, I211 ORDERING. The individual orders placed by the appointed Ordering Officer will designate the specific quantity to be delivered at the customer location specified in the Contract.
4. PRODUCT DELIVERY LEAD-TIME: LN₂ product shall be delivered within 72 hours after receiving an order from the appointed Ordering Officer, unless a longer period of time is stated on the order.
5. EMERGENCY DELIVERIES: Occasional emergency deliveries shall be required within 24 hours notice, (estimate) 2 times per year.
6. DELIVER PRODUCT TO:

DOE
Fluor Hanford, Inc.
2355 Stevens Drive, Building 1168
Richland, WA 99354

The site is located north of the main plant building. Entrance to the site is located off Highway 240 on an internal road through a security guard post.

7. **PRODUCT DELIVERY HOURS:** Routine deliveries shall arrive between 8:00 a.m. and 3:00 p.m., Monday through Thursday and between 8:00 a.m. and 2:00 p.m. on every other Friday (alternating schedule of every other Friday off) that Fluor Hanford personnel are on duty. There may be instances when to avoid a work stoppage, deliveries may need to be made outside of the above-mentioned timeframe. The normal time to turnaround a Contractor's delivery truck within the plant is approximately 4 hours.
8. **INSPECTION AND ACCEPTANCE:** Inspection for quality shall be performed at origin. Quantity determination and acceptance shall be at destination.
9. **METHOD OF MEASUREMENT:** During normal operating days, Monday through Thursday, the delivery trucks will weigh in and weigh out at the Fluor Hanford warehouse facility. On alternate Fridays, weigh in and weigh out will be done at the local Lamb Weston scales. The delivery quantity entered on the DD Form 250 will be determined using Fluor Hanford's certified weight scales. Delivery conveyance shall have a calibrated flow meter for determining quantities at each delivery point. The calibrated flow meter information recorded by the driver shall be provided to the Fluor Hanford delivery tank scheduler. This information will be captured in a spreadsheet and made available to the tank owners to let them know the monthly usage per tank. No seals are required on the delivery conveyance.
10. **DESCRIPTION OF CONTRACTOR-PROVIDED TANKS :** The Contractor shall provide a LN₂ bulk storage tank and vaporizer, if required, at the following locations at DOE Fluor Hanford. Each tank's storage capacity and Maximum Allowable Working Pressure (MAWP) is also designated for each tank.

<u>Location</u>	<u>Number of Tanks</u>	<u>Vaporizer</u>	<u>Storage Capacity (gallons/tons)</u>	<u>MAWP</u>
APEL	1 ea	Yes	660 gal ea / (approx. 2.2 tons)	250 psig
EMSL 3020A	1 ea	No	6,000 gal ea / (approx. 20 tons)	250 psig
EMSL 3020B	1 ea	Yes	11,000 gal ea / (approx. 37 tons)	250 psig
LSL	1 ea	Yes	3,000 gal ea / (approx. 10 tons)	250 psig
PSL	1 ea	Yes	3,000 gal ea / (approx. 10 tons)	250 psig
RTL	1 ea	Yes	3,000 gal ea / (approx. 10 tons)	250 psig
318	1 ea	No	1,000 gal ea / (approx. 3.4 tons)	250 psig
320	1 ea	Yes	6,000 gal ea / (approx. 20 tons)	250 psig
326	1 ea	Yes	650 gal ea / (approx. 2.2 tons)	250 psig
329	1 ea	No	650 gal ea / (approx. 2.2 tons)	250 psig
331	1 ea	Yes	9,000 gal ea / (approx. 30 tons)	250 psig
747	1 ea	Yes	500 gal ea / (approx. 1.7 tons)	250 psig
241-SY	1 ea	Yes	500 gal ea / (approx. 1.7 tons)	250 psig

11. **DESCRIPTION OF GOVERNMENT-OWNED TANKS:** Government provided LN₂ bulk storage tanks are at the following locations on DOE Fluor Hanford. The following information applies. There are no vaporizers provided for these tanks.

<u>Location</u>	<u>Number of Tanks</u>	<u>Storage Capacity (gallons/tons)</u>	<u>MAWP</u>
FFTF	1 ea	6,000 gal ea / (approx. 20 tons)	250 psig
NT-A-Mobile	1 ea	1,000 gal ea / (approx. 3.4 tons)	250 psig
NT-B-Mobile	1 ea	1,000 gal ea / (approx. 3.4 tons)	250 psig
NT-C-Mobile	1 ea	1,000 gal ea / (approx. 3.4 tons)	250 psig

12. **CONTRACTOR EQUIPMENT REQUIREMENTS:** Contractor's equipment and installation shall meet all construction codes and standards currently in effect in the Fluor Hanford Special Provisions – On Site Services, SP-5 REV.13, 11 September 2008.

13. **REMOVAL, INSTALLATION AND MAINTENANCE OF CONTRACTOR PROVIDED TANKS AND EQUIPMENT:** Contractor shall install their Contractor provided tanks/equipment on existing concrete pads, within the existing footprints, no later than 30 calendar days from start of contract performance. The Contractor shall also perform all inspections and maintenance of Contractor provided tanks/equipment to assure system provides safe and uninterrupted support. Contractor provided tanks/equipment shall be removed by the Contractor within 30 calendar days after termination. The Contractor will coordinate with the current supplier to effect removal of current equipment and installation of new equipment, or to retain the current equipment. The Contractor may be required to provide a temporary system during change out of existing system or tanks to eliminate any delay in supply of product.
14. **HOT FILLS:** Occasionally, the Contractor may be required to perform a "Hot Fill" in order to cool-down and refill any tank that has become empty and is warm.
15. **SECURITY REQUIREMENTS:** Contractor's personnel working at or making deliveries to the Fluor Hanford site must be a United States citizen, have a valid driver's license, must be badged for site access, and must attend Fluor Hanford site orientation briefing.

(DESC 52.246-9F28)

INSPECTION AND ACCEPTANCE**D10 PACKAGING REQUIREMENTS (AEROSPACE ENERGY) (DESC APR 2006)**

(a) The Contractor shall be responsible for ensuring the hazardous materials shipment is in full compliance with all applicable packaging/packing, marking, labeling, placarding, blocking and bracing, and palletizing and shipping certifications in force and effect on the date of the shipment in accordance with the following applicable rules and regulations for the individual hazard, ultimate destination, and mode of transportation:

- (1) Title 49 of the Code of Federal Regulations (49 CFR) -- Packaging.
- (2) DLAI 4145.3, Preparing Hazardous Materials for Military Air Shipments.
- (3) International Air Transport Association (IATA) -- Dangerous Goods Regulations.
- (4) International Civil Aviation Organization (ICAO) -- Technical Instructions for the Safe Transportation of Dangerous

Goods by Air.

- (5) International Maritime Organization (IMO) -- International Maritime Dangerous Goods (IMDG) Code (for overseas shipments by vessel).
 - (6) MIL-STD 129, Standard Practice for Military Marking (for military destinations).
 - (7) MIL-HDBK 774, Department of Defense Handbook, Palletized Unit Loads (for guidance only).
 - (8) ASME MH 1.8, Wood Pallets.
- (b) Contractor commercial packaging (ASTM D 3951) shall also be in compliance with the requirements listed.

(DESC 52.223-9F17)

D15 CONTRACTOR SEAL REQUIREMENT (AEROSPACE ENERGY) (DESC OCT 2006)

(a) The Contractor shall place tamper indicating devices (TIDs) such as a seal or cap on the shipping container(s) immediately after filling and sampling. The TIDs shall be placed on the containers in such a manner that pilferage or tampering of the product could only be accomplished by breaking or otherwise destroying the TID. This may require the application of several TIDs on each shipment container.

(b) Where possible, the TID shall be printed with a serial number. The container number and TID number(s) shall be recorded on the certificate of analysis and on the shipping documents. Monthly equipment inventory reports provided to DESC by the Contractor shall include container numbers as well as corresponding TID numbers.

(c) TIDs shall not be removed from a container unless authorized by DESC. If a TID is broken or no longer intact, the Contractor shall contact the Contracting Officer for further instructions. If the Contractor is instructed to place a new TID on the container, the new TID number (if applicable) shall be noted, along with the container number, as stated in paragraph (b) above.

(DESC 52.211-9FN1)

E1.15 CONTRACTOR INSPECTION RESPONSIBILITIES (AEROSPACE ENERGY) (DESC APR 2006)**(a) QUALITY CONTROL PLAN.**

(1) The Contractor shall provide and maintain an inspection system and a written Quality Control Plan (QCP) acceptable to the Government. If the Contractor is ISO certified Q91 (ISO9001) Quality Management Systems, they have the option to offer their Q91 inspection system as their QCP provided their Q91 written plan incorporates all the QCP elements identified below. The QCP shall be established and reviewed for adequacy by the Quality Representative (QR) prior to commencement of production or services.

(2) The QCP shall include--

- (i) A schematic diagram of plant facilities pertinent to the inspection system indicating all inspection points;
- (ii) Sampling procedures.

- (iii) Sample testing methods/procedures;
- (iv) Analytical and measuring equipment calibration program;
- (v) Loading/shipping procedures;
- (vi) Records maintenance and reports preparation/distribution; and
- (vii) Corrective action procedures.

(b) The Contractor shall perform all inspection tests required by the specification/item description of the supplies to be furnished under this contract or shall have such tests performed in a laboratory acceptable to the Government. The Contractor shall notify the QR in sufficient time to permit inspection by the Government. When such tests are performed at origin on supplies to be accepted at destination, documentation that will enable verification of the original test results shall be provided to the Government at the time of acceptance.

(DESC 52.246-9FE2)

E6 CERTIFICATE OF CONFORMANCE (DESC JAN 2004)

(a) When authorized in writing by the cognizant Contract Administration Office (CAO), the Contractor shall ship with a Certificate of Conformance any supplies for which the contract would otherwise require inspection at source. In no case shall the Government's right to inspect supplies under the inspection provisions of this contract be prejudiced. Shipments of such supplies will not be made under this contract until use of the Certificate of Conformance has been authorized in writing by the CAO, or inspection and acceptance have occurred.

(b) The Contractor's signed certificate shall be attached to or included on the top copy of the Material Inspection and Receiving Report (DD Form 250) or other authorized document that is distributed to the payment office (Block 12 of the DD Form 250). A copy shall also be sent with the shipment and to the CAO (Block 10 of the DD Form 250); however, the CAO copy shall only be sent if specifically requested by the Contracting Officer.

(c) The Government has the right to reject defective supplies or services within a reasonable time after delivery by written notification to the Contractor. The Contractor shall in such event promptly replace, correct, or repair the rejected supplies or services at the Contractor's expense.

(d) The certificate shall read as follows:

"I certify that on _____ [insert date], the _____ [insert Contractor's name] furnished the supplies or services called for by Contract No. _____ via _____ [Carrier] on _____ [identify the bill of lading or shipping document] in accordance with all applicable requirements. I further certify that the supplies or services are of the quality specified and conform in all respects with the contract requirements, including specifications, drawings, preservation, packaging, packing, marking requirements, and physical item identification (part number), and are in the quantity shown on this or on the attached acceptance document."

Date of Execution: _____

Signature: _____

Title: _____

(DESC 52.246-9F01)

E22.01 QUALITY REPRESENTATIVE (DESC JUL 1992)

The Quality Office assigned inspection responsibility under this contract is
TO BE DETERMINED AT TIME OF AWARD

(DESC 52.246-9F35)

E33.10 MANUFACTURING AND FILLING POINTS (AEROSPACE ENERGY) (DESC JUL 2008)

(a) Provide the name, complete addresses and telephone number of the manufacturing and filling points for each product to be furnished, and identify the filling points as primary or secondary.

<u>PRODUCT</u>	<u>NAME, COMPLETE ADDRESS AND TELEPHONE NUMBER OF MANUFACTURING POINT/FILLING POINT</u>
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LIQUID NITROGEN
IAW ANSI/AWS A5.32/A5.32M-97
NSN: 6830-01-526-5162
DELIVERED TO ANAD, AL

LIQUID OXYGEN
IAW ANSI/AWS A5.32/A5.32M-97
NSN: 6830-01-527-7267
DELIVERED TO ANAD, AL

LIQUID NITROGEN, TYPE II, GRADE B
IAW MIL-PRF-27401F, DATED 10 JAN 2008
NSN: 9135-00-965-2526
DELIVERED TO NORTHROP GRUMMAN, BALTIMORE, MD

LIQUID OXYGEN, TYPE II, GRADE A
IAW MIL-PRF-25508G, DATED 10 JAN 2008
NSN: 9135-00-965-2526
DELIVERED TO ARNOLD AFB, TN

LIQUID NITROGEN, TYPE II, GRADE B, CLASS 1
COMMERCIAL ITEM DESCRIPTION A-A-59503B,
DATED 20 OCT 2008
NSN: 6830-00-285-4769
DELIVERED TO PORTSMOUTH, VA

LIQUID OXYGEN, TYPE II, GRADE B
COMPRESSED GAS ASSOCIATION (CGA) G-4.3
NSN: 6830-01-527-7676
DELIVERED TO PORTSMOUTH, VA

LIQUID NITROGEN, TYPE II, GRADE C
IAW MIL-PRF-27401F, DATED 10 JAN 2008
NSN: 9135-00-985-7080
DELIVERED TO DOE FLOUR HANFORD, RICHLAND, WA

LIQUID ARGON, TYPE II, GRADE B
IAW MIL-PRF-27415B, DATED 8 FEB 2007
NSN: 9135-00-759-7634
DELIVERED TO DOE KANSAS CITY, MO

LIQUID ARGON, GRADE LW
IAW DESC PURCHASE DESCRIPTION, ARGON,
LOW WATER, AND ULTRA-PURE, DATED 11 MAY 2005
NSN: 6830-01-526-5174
DELIVERED TO ANAD, AL

LIQUID ARGON, TYPE II, GRADE B
IAW MIL-PRF-27415B, DATED 8 FEB 2007
NSN: 9135-00-759-7634
DELIVERED TO ROBINS AFB, GA

LIQUID ARGON, TYPE II, GRADE B
IAW MIL-PRF-27415B, DATED 8 FEB 2007
NSN: 9135-00-759-7634
DELIVERED TO DOE RICHLAND FACILITY, RICHLAND, WA

LIQUID ARGON, TYPE II, GRADE A
 IAW MIL-PRF-27415B, DATED 8 FEB 2007
 NSN: 9135-00-759-7634
 DELIVERED TO WHITE SANDS MISSILE RANGE, NM (HELSTF)

(b) Suppliers that list primary and alternate manufacturing/filling points for supporting the same requirement shall provide a 30 calendar day notice to the Government prior to offering an initial shipment from an alternate manufacturing/filling point.

(c) For f.o.b. origin shipments, the contract price shall not be adjusted if a Contractor uses a different fill location other than the primary fill point during contract performance. However, if the use of the alternate fill point results in increased costs to the Government, such as transportation costs, the Contractor agrees to reimburse the Government for those increased costs.

(DESC 52.246-9F51)

E35 NONCONFORMING SUPPLIES AND SERVICES (DESC JAN 2004)

(a) The Government may, at its discretion, accept nonconforming supplies or services. In such cases, the Contractor must obtain a deviation or waiver from the Contracting Officer prior to acceptance.

(b) The following procedures shall be used to request a deviation or waiver to the applicable nonconformance(s). A deviation is a request by a Contractor to deviate from the contract requirements after contract award, but prior to initial production of each product (for the duration of the contract). A waiver is a request by a Contractor to deviate from the contract requirements after initial production of each product (on a case-by-case basis or for a set period).

(1) Requests for deviations and waivers shall be submitted by the Contractor to the Contracting Officer with a copy to the Quality Representative (QR). Each request shall provide the following information: Contractor name; contract number; contract line item and product, if applicable; clause number, paragraph and subparagraph, as appropriate; the nature of the request; the reason for the request; the corrective action being taken by the Contractor to correct and prevent recurrence of the condition(s) causing the nonconformance; and equitable price adjustment offered over the administrative fee. In extraordinary situations, the Contractor may initially submit the request for a waiver, not a deviation, through the cognizant QR to the Contracting Officer or the Contracting Officer's Representative (COR) in the Quality Operations Division (DESC-QT) of the Defense Energy Support Center (DESC). Extraordinary situation requests shall be submitted formally to the Contracting Officer prior to close of business of the next normal DESC workday (0800 to 1630 hours EST, Monday through Friday, Federal Holidays excluded). As used in this clause, the term extraordinary situation means the matter cannot await resolution until the next normal DESC workday. In addition, if either the Contracting Officer or the COR cannot be reached, the Duty Officer shall be contacted and provided the necessary information to forward to the proper individuals as soon as possible. The Duty Officer's telephone number is **(800) 286-7633** or **(703) 767-8420; (DSN) 427-8420**.

(2) If a deviation or waiver is granted, the contract will be modified to provide an equitable price reduction or other adequate consideration commensurate with the deviation or waiver being granted. If the situation dictates, a deviation or waiver may be granted without prior agreement on price adjustment or other consideration subject to agreement by the Contractor, or its representative, to subsequent negotiation. Such agreement shall be documented on the receiving document or other appropriate correspondence. After negotiations, failure to agree on adequate consideration shall be a dispute concerning a question of fact within the meaning of the Disputes paragraph of the CONTRACT TERMS AND CONDITIONS – COMMERCIAL ITEMS clause of this contract.

(3) If a deviation or waiver is granted and the nonconforming supplies are accepted, then in no event will consideration be less than \$250 to cover administrative costs, plus any additional cost of Government reinspection or retest, if necessary.

(4) If a deviation or waiver is granted modifying this contract but the supplies accepted are subsequently determined to be in conformity with contract specifications, the Contractor shall still be obligated to pay the consideration originally agreed upon in support of the deviation or waiver. If, however, this consideration exceeds \$500, a second contract modification shall be issued reducing the Contractor's obligation to \$500 (the administrative cost of issuing the two required modifications).

(c) When notification of nonconforming supplies is received after the supplies have been accepted, and the Government determines not to exercise its right to reject or to require correction under the INSPECTION OF SUPPLIES – FIXED-PRICE, INSPECTION AND ACCEPTANCE OF SUPPLIES (SHIPS' BUNKERS), or CONTRACT TERMS AND CONDITIONS – COMMERCIAL ITEMS clause, then in no event will consideration be less than \$250 to cover administrative costs. This \$250 fee is in addition to—

- (1) Consideration commensurate with the extent of nonconforming supplies; and
- (2) Cost of Government reinspection or retest, if necessary.

The administrative fee will apply to each claim letter issued for off-specification product delivered to an activity.

(d) Contractors shall be held responsible for payment of any fines or penalties imposed on a receiving activity by an environmental enforcement agency, resulting from the delivery of nonconforming supplies under a DESC contract.

(e) Repeated tender of nonconforming supplies or services, including those with only minor defects, will be discouraged by appropriate actions, including, but not limited to rejecting the supplies or services whenever feasible and documenting the Contractor's performance records.

(DESC 52.246-9FQ5)

DELIVERIES OR PERFORMANCE**F1.36 DETERMINATION OF QUANTITY (PROPELLANTS, CRYOGENICS AND GASES) (AEROSPACE ENERGY) (DESC APR 2006)**

(a) **QUANTITY.** The quantity of supplies furnished under this contract shall be determined according to one of the following methods:

(1) DELIVERIES INTO OR BY PIPELINE.**(i) F.O.B. ORIGIN.**

(A) On items requiring delivery at the Contractor's terminal or plant, the quantity shall be determined by a calibrated flow meter.

(B) The **Government** retains the right to have a representative witness quantity measurements performed by the Contractor.

(ii) F.O.B. DESTINATION.

(A) At the Government's option, quantity determinations will be made at the receiving activity on the basis of a calibrated flow meter.

(B) The **Contractor** has the right to have a representative witness quantity measurements performed by the Government.

(C) If the Government does not opt to perform quantity determinations at the destination (see schedule), the Contractor shall determine quantity on the basis of a calibrated flow meter.

(D) The **Government** retains the right to have a representative witness quantity measurements performed by the Contractor.

(2) DELIVERIES BY OTHER THAN PIPELINE.**(i) F.O.B. ORIGIN.**

(A) On items requiring delivery at the Contractor's terminal or plant, the quantity shall be determined (at the Contractor's option) on the basis of--

(a) Calibrated flow meter.

(b) Weight using calibrated scales.

(c) Pressure Temperature Fill Charts/Calculations (for gaseous cylinders and tube trailers).

(B) The **Government** retains the right to have a representative witness quantity measurements performed by the Contractor.

(ii) F.O.B. DESTINATION.

(A) At the Government's option, quantity determinations will be made at the receiving activity on the basis of--

(a) Calibrated flow meter.

(b) Weight using calibrated scales.

(c) Pressure Temperature Fill Charts/Calculations (for gaseous cylinders and tube trailers).

(B) The **Contractor** has the right to have a representative witness quantity measurements performed by the Government.

(C) If the Government does not opt to perform quantity determinations at the destination (see Schedule), the Contractor shall determine quantity on the basis of--

(a) Calibrated flow meter.

(b) Weight using calibrated scales.

(c) Pressure Temperature Fill Charts/Calculations (for gaseous cylinders and tube trailers).

(D) The **Government** retains the right to have a representative witness quantity measurements performed by the Contractor.

(b) **MEASUREMENT STANDARDS.** Weight scales used in determining net shipping volumes shall be certified as calibrated within the frequency required by local regulation. If no local regulation exists, the frequency of calibration shall be conducted in accordance with weight scale manufacturer recommendation or every six months, whichever is more frequent. All flow meters used in determining product volume shall be calibrated within the frequency required by local regulation (foreign or domestic). If no local regulation exists, then the frequency of calibration shall be that recommended by the meter manufacturer or every six months, whichever is more frequent. Pressure gauges and thermometers used to calculate fill quantities for gaseous cylinders and tube trailers shall be calibrated at least every six months. The net quantity shipped shall be reported on the DD Form 250 or commercial equivalent, whichever is applicable.

(DESC 52.211-9FB6)

F3.04 TRANSPORTATION OF HAZARDOUS MATERIALS (AEROSPACE ENERGY) (DESC APR 2006)

The Contractor shall be responsible for ensuring the transportation of hazardous materials is in full compliance with all applicable rules and regulations below that are in force and effect on the date of the shipment for the individual hazard, ultimate destination, and mode of transportation:

- (a) Title 49 of the Code of Federal Regulations (49 CFR) -- Transportation.
- (b) DLAI 4145.3, Preparing Hazardous Materials for Military Air Shipments.
- (c) International Air Transport Association (IATA) -- Dangerous Goods Regulations.
- (d) International Civil Aviation Organization (ICAO) -- Technical Instructions for the Safe Transportation of Dangerous

Goods by Air.

- (e) International Maritime Organization (IMO) -- International Maritime Dangerous Goods (IMDG) Code (for overseas shipments by vessel).

(DESC 52.247-9FJ6)

F3.10 TRANSPORT TRUCK AND/OR TRUCK AND TRAILER FREE TIME AND DETENTION RATES (F.O.B. DESTINATION) (AEROSPACE ENERGY) (DESC DEC 2007)

(a) The Contractor shall be paid for detention beyond free time for delays caused by the Government. Free time will commence at the time the Contractor's transport truck or truck and trailer arrives at the delivery destination (receiving tank identified in the contract) and will end when the carrier is released. For items involving multiple drops, time between drops will not be included in the free time. The attached Form H-14, Transport Equipment Delay Certificate, shall be completed to show the date and time the carrier arrived and departed and the reason(s) for the delays. This form must be signed by both the driver and unloading personnel. A signed copy of this form must be sent to--

ATTN: DESC-MIC (INVOICE MONITOR)
1014 BILLY MITCHELL BLVD
SAN ANTONIO, TX 78226

(b) A minimum of two hours time is required by the Government. If Contractor free time is beyond two hours, indicate here: _____

(c) The rate for detention shall be comparable to regulated tariffs governing the local area of the receiving activity. The rate for detention shall be stated by quarter hour.

(d) The above will not be considered in the evaluation of offers for award, except that free time of less than two hours or detention rates not comparable to regulated tariffs may render an offer unacceptable/bid nonresponsive.

(e) **Detention Costs:** Invoices for detention costs will be forwarded directly to the address stated above.

(DESC 52.247-9FK3)

F21 CONTRACTOR NOTICE REGARDING LATE DELIVERY (DESC APR 1968)

In the event the Contractor encounters difficulty in meeting performance requirements, or when it anticipates difficulty in complying with the contract delivery Schedule or date, it shall immediately notify the Contracting Officer, in writing, giving pertinent details; PROVIDED, however, that this data shall be informational only in character and that this provision shall not be construed as a waiver by the Government of any delivery Schedule or date or of any rights or remedies provided by law or under this contract.

(DESC 52.242-9FM1)

CONTRACT ADMINISTRATION DATA

G152 SUBMISSION OF INVOICES FOR PAYMENT (AEROSPACE ENERGY) (DESC DEC 2007)

(a) Supporting documentation required for processing payment to the Contractor after delivery of product shall be the original of the DD Form 250, Material Inspection and Receiving Report, or an original of its commercial equivalent. If required by the Schedule, a copy of the certified weight ticket shall accompany each shipment.

(1) **FOR F.O.B. ORIGIN DELIVERIES.** The original DD Form 250 or commercial equivalent shall have been certified by the Government's Quality Assurance Representative (QAR) and have the QAR's typed name, title, mailing address and office phone number included on the document.

(2) **FOR F.O.B. DESTINATION DELIVERIES.** The original DD Form 250 or commercial equivalent shall be provided to the customer/Defense Fuel Support Point (DFSP) to verify receipt of the product at the time of delivery who shall provide the original DD Form 250 or commercial equivalent to a Government representative to certify acceptance of the delivery. For f.o.b. destination deliveries that require f.o.b. origin inspection, the DD Form 250 shall have both the origin QAR's and the customer's/DFSP's signatures.

(3) **FOR C.O.C. DELIVERIES.** The original DD Form 250 or commercial equivalent shall be certified by the Contractor, in accordance with the applicable contract clause, verifying delivery in accordance with contract terms and conditions and the Schedule.

(b) The Contractor shall directly fax the original product invoice along with the original DD Form 250 or commercial equivalent, as described above, within 15 calendar days of delivery, into the Electronic Document Management system at **866-313-2340** or **(614) 693-2630**.

(c) In addition, the Contractor shall concurrently mail a copy of the signed DD Form 250 or commercial equivalent and, if required by the Schedule, a copy of the certified weight ticket to—

DESC-MIC (INVOICE MONITOR)
1014 BILLY MITCHELL BLVD
SAN ANTONIO, TX 78226
FAX: 210-925-8048, ATTN: DESC-MIC (Invoice Monitor)

(d) If the contract involves services such as lease of Contractor-furnished equipment, services of any nature, and/or additional service charges otherwise allowed by the Schedule, such as Delay and Standby, the Contractor shall submit a separate service original invoice to the DESC-MIC Invoice Monitor at the address shown in paragraph (c) above. Unless stipulated otherwise in the contract, all invoices for service will be submitted after the services have been performed. In the case of leased containers, the invoice shall also include the container serial number or other unique identifier as well as information relative to the product that the container supports, i.e., name of the product, NSN, etc.

(DESC 52.232-9FF2)

PART II – CONTRACT CLAUSES

11.03-14 CONTRACT TERMS AND CONDITIONS - COMMERCIAL ITEMS (AEROSPACE ENERGY) (DESC NOV 2008)

(a) **INSPECTION/ACCEPTANCE.** The Contractor shall only tender for acceptance those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. If repair/replacement or reperformance will not correct the defects or is not possible, the Government may seek an equitable price reduction or adequate consideration for acceptance of nonconforming supplies or services. The Government must exercise its post-acceptance rights (1) within a reasonable time after the defect was discovered or should have been discovered; and (2) before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(b) **ASSIGNMENT.** The Contractor or its assignee may assign its rights to receive payment due, as a result of performance of this contract, to a bank, trust company, or other financing institution, including any Federal lending agency in accordance with the Assignment of Claims Act (31 U.S.C. 3727). However, when a third party makes a payment (e.g., use of the Government-wide commercial purchase card), the Contractor may not assign its right to receive payment under this contract.

(c) **CHANGES.** Changes in the terms and conditions of this contract may be made only by written agreement of the parties.

(d) **DISPUTES.** This contract is subject to the Contract Disputes Act of 1978, as amended (41 U.S.C. 601-613). Failure of the parties to this contract to reach agreement on any request for equitable adjustment, claim, appeal or action arising under or relating to this contract shall be a dispute to be resolved in accordance with the clause at FAR 52.233-1, DISPUTES, which is incorporated herein by reference. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any dispute arising under the contract.

(e) **DEFINITIONS.** The clause at FAR 52.202-1, DEFINITIONS, is incorporated herein by reference.

(f) **EXCUSABLE DELAYS.** The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence, such as acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(g) **INVOICE.** The Contractor shall submit an original invoice and three copies (or electronic invoice, if authorized) to the address designated in the contract to receive invoices. An invoice must include--

- (1) Name and address of the Contractor;
- (2) Invoice date and number;
- (3) Contract number, contract line item number, and, if applicable, the order number;
- (4) Description, quantity, unit of measure, unit price, and extended price of the items delivered;
- (5) Shipping number and date of shipment including the bill of lading number and weight of shipment if shipped on

Government bill of lading;

- (6) Terms of any prompt payment discount offered;
- (7) Name and address of official to whom payment is to be sent; and
- (8) Name, title, and phone number of person to be notified in event of defective invoice.
- (9) **Taxpayer Identification Number (TIN).** The Contractor shall include its TIN on the invoice only if required

elsewhere in this contract.

- (10) **Electronic funds transfer (EFT) banking information.**

(i) The Contractor shall include EFT banking information on the invoice only if required elsewhere in this contract.

(ii) If EFT banking information is not required to be on the invoice, in order for the invoice to be a proper invoice, the Contractor shall have submitted correct EFT banking information in accordance with the applicable solicitation provision, contract clause (e.g., 52.232-33, Payment by Electronic Funds Transfer – Central Contractor Registration, or 52.232-34, Payment by Electronic Funds Transfer – Other Than Central Contractor Registration), or applicable agency procedures.

(iii) EFT banking information is not required if the Government waived the requirement to pay by EFT.

Invoices will be handled in accordance with the Prompt Payment Act (31 U.S.C 3903) and Office of Management and Budget (OMB) prompt payment regulations at 5 CFR Part 1315.

(h) **PATENT INDEMNITY.** The Contractor shall indemnify the Government and its officers, employees and agents against liability, including costs, for actual or alleged direct or contributory infringement of, or inducement to infringe, any United States or foreign patent, trademark or copyright, arising out of the performance of this contract, provided the Contractor is reasonably notified of such claims and proceedings.

(i) **PAYMENT.**

(1) **Items accepted.** Payment shall be made for items accepted by the Government that have been delivered to the delivery destinations set forth in this contract.

(2) **Prompt payment.** The Government will make payment in accordance with the Prompt Payment Act (31 U.S.C 3903) and prompt payment regulations at 5 CFR part 1315.

(3) **Electronic Funds Transfer (EFT).** If the Government makes payment by EFT, see 52.212-5(b) for the appropriate EFT clause.

(4) **Discount.** In connection with any discount offered for early payment, time shall be computed from the date of the invoice. For the purposes of computing the discount earned, payment shall be considered to have been made on the date which appears on the payment check or the specified payment date if an electronic funds transfer payment is made.

(5) **Overpayments.** If the Contractor becomes aware of a duplicate contract financing or invoice payment or that the Government has otherwise overpaid on a contract financing or invoice payment, the Contractor shall—

(i) Remit the overpayment amount to the payment office cited in the contract along with a description of the overpayment including the—

(A) Circumstances of the overpayment (e.g., duplicate payment, erroneous payment, liquidation errors, date(s) of overpayment);

(B) Affected contract number and delivery order number, if applicable;

(C) Affected contract line item or subline item, if applicable; and

(D) Contractor point of contact.

(ii) Provide a copy of the remittance and supporting documentation to the Contracting Officer.

(6) **Interest.**

(i) All amounts that become payable by the Contractor to the Government under this contract shall bear simple interest from the date due until paid unless paid within 30 days of becoming due. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in Section 611 of the Contract Disputes Act of 1978 (Public Law 95-563), which is applicable to the period in which the amount becomes due, as provided in (i)(6)(v) of this clause, and then at the rate applicable for each six-month period as fixed by the Secretary until the amount is paid.

(ii) The Government may issue a demand for payment to the Contractor upon finding a debt is due under the contract.

(iii) **Final decisions.** The Contracting Officer will issue a final decision as required by 33.211 if—

(A) The Contracting Officer and the Contractor are unable to reach agreement on the existence or amount of a debt within 30 days.

(B) The Contractor fails to liquidate a debt previously demanded by the Contracting Officer within the timeline specified in the demand for payment unless the amounts were not repaid because the Contractor has requested an installment payment agreement; or

(C) The Contractor requests a deferment of collection on a debt previously demanded by the Contracting Officer (see 32.607-2).

(iv) If a demand for payment was previously issued for the debt, the demand for payment included in the final decision shall identify the same due date as the original demand for payment.

(v) Amounts shall be due at the earliest of the following dates:

(A) The date fixed under this contract.

(B) The date of the first written demand for payment, including any demand for payment resulting from a default termination.

(vi) The interest charge shall be computed for the actual number of calendar days involved beginning on the due date and ending on—

(A) The date on which the designated office receives payment from the Contractor;

(B) The date of issuance of a Government check to the Contractor from which an amount otherwise payable has been withheld as a credit against the contract debt; or

(C) The date on which an amount withheld and applied to the contract debt would otherwise have become payable to the Contractor.

(vii) The interest charge made under this clause may be reduced under the procedures prescribed in 32.608-2 of the Federal Acquisition Regulation in effect on the date of this contract.

(j) **RISK OF LOSS.** Unless the contract specifically provides otherwise, risk of loss or damage to the supplies provided under this contract shall remain with the Contractor until, and shall pass to the Government upon--

(1) Delivery of the supplies to a carrier, if transportation is f.o.b. origin; or

(2) Delivery of the supplies to the Government at the destination specified in the contract, if transportation is f.o.b.

destination.

(k) **TAXES.** The contract price includes all applicable Federal, State, and local taxes and duties.

(l) **TERMINATION FOR THE GOVERNMENT'S CONVENIENCE.** The Government reserves the right to terminate this contract, or any part thereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms and conditions of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges the Contractor can demonstrate to the satisfaction of the Government using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred which reasonably could have been avoided.

(m) **TERMINATION FOR CAUSE.** The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(n) **TITLE.** Unless specified elsewhere in this contract, title to items furnished under this contract shall pass to the Government upon acceptance, regardless of when or where the Government takes physical possession.

(o) **WARRANTY.** Regardless of any conflicting provision of this contract, Contractor warrants to the Government that the products delivered under this contract conforms to each product's applicable specification. The Contractor does not make any other express warranty regarding the products delivered under the Contract. The Contractor specifically disclaims all implied warranties for all the products contained in the Contract's Schedule, including the implied warranties of merchantability and fitness for a particular purpose.

(p) **LIMITATION OF LIABILITY.** Except as otherwise provided by an express warranty, the Contractor will not be liable to the Government for consequential damages resulting from any defect or deficiencies in accepted items. In all events, regardless of the legal theory (e.g., breach of contract or warranty, negligence, strict liability, etc.) or any conflicting provision of the contract, Contractor is not liable for special, indirect, incidental, exemplary, consequential damages, or economic loss, including any loss of business, production, or profits.

(q) **OTHER COMPLIANCES.** The Contractor shall comply with all applicable Federal, State, and local laws, executive orders, rules, and regulations applicable to its performance under this contract.

(r) **COMPLIANCE WITH LAWS UNIQUE TO GOVERNMENT CONTRACTS.** The Contractor agrees to comply with 31 U.S.C. 1352 relating to limitations on the use of appropriated funds to influence certain Federal contracts; 18 U.S.C. 431 relating to officials not to benefit; 40 U.S.C. 3701 et seq., Contract Work Hours and Safety Standards Act; 41 U.S.C. 51-58, Anti-Kickback Act of 1986, 41 U.S.C. 265 and 10 U.S.C. 2409 relating to whistle blower protections; 49 U.S.C. 40118, Fly American; and 41 U.S.C. 423 relating to procurement integrity.

(s) **ORDER OF PRECEDENCE.** Any inconsistencies in this solicitation or contract shall be resolved by giving precedence in the following order:

(1) The schedule of supplies/services;

(2) The Assignments; Disputes, Payments; Invoices; Other Compliances; and Compliance with Laws Unique to

Government Contracts paragraphs of this clause;

(3) The clause at 52.212-5;

(4) Addenda to this solicitation or contract, including any license agreements for computer software;

(5) Solicitation provisions if this is a solicitation;

(6) Other paragraphs of this clause;

(7) Standard Form 1449;

(8) Other documents, exhibits, and attachments; and

(9) The specification.

(t) **CENTRAL CONTRACTOR REGISTRATION (CCR).**

(1) Unless exempted by an addendum to this contract, the Contractor is responsible during performance and through final payment of any contract for the accuracy and completeness of the data within the CCR database, and for any liability resulting from the Government's reliance on inaccurate or incomplete data. To remain registered in the CCR database after the initial registration, the

Contractor is required to review and update on an annual basis, from the date of initial registration or subsequent updates, its information in the CCR database to ensure it is current, accurate and complete. Updating information in the CCR does not alter the terms and conditions of this contract and is not a substitute for a properly executed contractual document.

(2) (i) If a Contractor has legally changed its business name, “**doing business as**” name, or division name (whichever is shown on the contract), or has transferred the assets used in performing the contract, but has not completed the necessary requirements regarding novation and change-of-name agreements in FAR Subpart 42.12, the Contractor shall provide the responsible Contracting Officer a minimum of one business day’s written notification of its intention to—

(A) Change the name in the CCR database;

(B) Comply with the requirements of Subpart 42.12; and

(C) Agree in writing to the timeline and procedures specified by the responsible Contracting Officer. The

Contractor must provide with the notification sufficient documentation to support the legally changed name.

(ii) If the Contractor fails to comply with the requirements of paragraphs (t)(2)(i) of this clause, or fails to perform the agreement at paragraph (t)(2)(i)(C) of this clause, and, in the absence of a properly executed novation or change-of-name agreement, the CCR information that shows the Contractor to be other than the Contractor indicated in the contract will be considered to be incorrect information within the meaning of the Suspension of Payment paragraph of the EFT clause of this contract.

(3) The Contractor shall not change the name or address for EFT payments or manual payments, as appropriate, in the CCR record to reflect an assignee for the purpose of assignment of claims (see Subpart 32.8, Assignment of Claims). Assignees shall be separately registered in the CCR database. Information provided to the Contractor’s CCR record that indicates payments, including those made by EFT, to an ultimate recipient other than that Contractor will be considered to be incorrect information within the meaning of the Suspension of Payment paragraph of the EFT clause of this contract.

(4) Offerors and Contractors may obtain information on registration and annual confirmation requirements via the internet at <http://www.ccr.gov> or by calling 1-888-227-2423 or 269-961-5757.

(FAR 52.212-4, **tailored**/DESC 52.212-9F57)

11.04 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS – COMMERCIAL ITEMS (FEB 2009)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clause, which is incorporated in this contract by reference, to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

(1) 52.222-50, Combating Trafficking in Persons (Feb 2009) (22 U.S.C. 7104(g)).

(i) Alternate I (Aug 2007) of 52.222-50 (22 U.S.C. 7104(g)).

(2) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).

(3) 52.233-4, Applicable Law for Breach of Contract Claim (Oct 2004) (Pub. L. 108-77, 108-78)

(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items:

[Contracting Officer shall check as appropriate.]

(1) 52.203-6, Restrictions on Subcontractor Sales to the Government (Sep 2006), with Alternate I (Oct 1995) (41 U.S.C. 253g and 10 U.S.C. 2402).

(2) 52.203-13, Contractor Code of Business Ethics and Conduct (Dec 2008) (Pub. L. 110-252, Title VI, Chapter 1 (41 U.S.C. 251 note)).

(3) 52.219-3, Notice of Total HUBZone Set-Aside (Jan 1999) (15 U.S.C. 657a).

(4) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Jul 2005) (if the offeror elects to waive the preference, it shall so indicate in its offer.) (15 U.S.C. 657a).

(5) [RESERVED]

(6) (i) 52.219-6, Notice of Total Small Business Set-Aside (Jun 2003) (15 U.S.C. 644).

(ii) Alternate I (Oct 1995) of 52.219-6.

(iii) Alternate II (Mar 2004) of 52.219-6.

(7) (i) 52.219-7, Notice of Partial Small Business Set-Aside (Jun 2003) (15 U.S.C. 644).

(ii) Alternate I (Oct 1995) of 52.219-7.

(iii) Alternate II (Mar 2004) of 52.219-7.

- (8) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)).
- (9) (i) 52.219-9, Small Business Subcontracting Plan (Apr 2008) (15 U.S.C. 637(d)(4)).
 (ii) Alternate I (Oct 2001) of 52.219-9.
 (iii) Alternate II (Oct 2001) of 52.219-9.
- (10) 52.219-14, Limitations on Subcontracting (Dec 1996) (15 U.S.C. 637(a)(14)).
- (11) 52.219-16, Liquidated Damages – Subcontracting Plan (Jan 1999) (15 U.S.C. 637(d)(4)(F)(i)).
- (12) (i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (Oct 2008) (10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer).
 (ii) Alternate I (Jun 2003) of 52.219-23.
- (13) 52.219-25, Small Disadvantaged Business Participation Program – Disadvantaged Status and Reporting (Apr 2008) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
- (14) 52.219-26, Small Disadvantaged Business Participation Program – Incentive Subcontracting (Oct 2000) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
- (15) 52.219-27, Notice of Total Service-Disabled Veteran-Owned Small Business Set-Aside (May 2004).
- (16) 52.219-28, Post Award Small Business Program Rerepresentation (June 2007) (15 U.S.C. 632(a)(2)).
- (17) 52.222-3, Convict Labor (Jun 2003) (E.O. 11755).
- (18) 52.222-19, Child Labor – Cooperation with Authorities and Remedies (Feb 2008) (E.O. 13126).
- (19) 52.222-21, Prohibition of Segregated Facilities (Feb 1999).
- (20) 52.222-26, Equal Opportunity (Mar 2007) (E.O. 11246).
- (21) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Sep 2006) (38 U.S.C. 4212).
- (22) 52.222-36, Affirmative Action for Workers with Disabilities (Jun 1998) (29 U.S.C. 793).
- (23) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (Sep 2006) (38 U.S.C. 4212).
- (24) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (Dec 2004) (E.O. 13201).
- (25) 52.222-54, Employment Eligibility Verification (Jan 2009) (Executive Order 12989). (Not applicable to the acquisition of commercially available off-the-shelf items or certain other types of commercial items as prescribed in 22.1803.)
- (26) (i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Items (May 2008) (42 U.S.C. 6962(c)(3)(A)(ii)).
 (ii) Alternate I (May 2008) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)).
- (27) 52.223-15, Energy Efficiency in Energy-Consuming Products (Dec 2007) (42 U.S.C. 8259b).
- (28) 52.223-16, IEEE 1680 Standard for the Government Assessment of Personal Computer Products (Dec 2007) (E.O. 13423).
 (ii) Alternate I (Dec 2007) of 52.223-16.
- (29) 52.225-1, Buy American Act—Supplies (Feb 2009) (41 U.S.C. 10a-10d).

- (30)(i) 52.225-3, Buy American Act—Free Trade Agreements—Israeli Trade Act (Feb 2009) (41 U.S.C. 10a-10d, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, Pub. L 108-77, 108-78, 108-286, 109-53 and 109-169).
- (ii) Alternate I (Jan 2004) of 52.225-3.
- (iii) Alternate II (Jan 2004) of 52.225-3.
- (31) 52.225-5, Trade Agreements (Nov 2007) (19 U.S.C. 2501, et seq., 19 U.S.C. 3301 note).
- (32) 52.225-13, Restriction on Certain Foreign Purchases (Jun 2008) (E.O.'s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).
- (33) 52.226-4, Notice of Disaster or Emergency Area Set-Aside (Nov 2007) (42 U.S.C. 5150).
- (34) 52.226-5, Restrictions on Subcontracting Outside Disaster or Emergency Area (Nov 2007) (42 U.S.C. 5150).
- (35) 52.232-29, Terms for Financing of Purchases of Commercial Items (Feb 2002) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).
- (36) 52.232-30, Installment Payments for Commercial Items (Oct 1995) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).
- (37) 52.232-33, Payment by Electronic Funds Transfer – Central Contractor Registration (Oct 2003) (31 U.S.C. 3332).
- (38) 52.232-34, Payment by Electronic Funds Transfer – Other Than Central Contractor Registration (May 1999) (31 U.S.C. 3332).
- (39) 52.232-36, Payment by Third Party (May 1999) (31 U.S.C. 3332).
- (40) 52.239-1, Privacy or Security Safeguards (Aug 1996) (5 U.S.C. 552a).
- (41) (i) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Feb 2006) (46 U.S.C. Appx. 1241(b) and 10 U.S.C. 2631).
- (ii) Alternate I (Apr 2003) of 52.247-64.

(c) The Contractor shall comply with the FAR clauses in this paragraph (c), applicable to commercial services, that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or executive orders applicable to acquisitions of commercial items:

[Contracting Officer shall check as appropriate.]

- (1) 52.222-41, Service Contract Act of 1965 (Nov 2007) (41 U.S.C. 351, et seq.).
- (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (May 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
- (3) 52.222-43, Fair Labor Standards Act and Service Contract Act – Price Adjustment (Multiple Year and Option Contracts) (Nov 2006) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
- (4) 52.222-44, Fair Labor Standards Act and Service Contract Act – Price Adjustment (Feb 2002) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
- (5) 52.222-51, Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration, or Repair of Certain Equipment – Requirements (Nov 2007) (41 U.S.C. 351, et seq.).
- (6) 52.222-53, Exemption from Application of the Service Contract Act to Contracts for Certain Services—Requirements (Feb 2009) (41 U.S.C. 351, et seq.).
- (7) 52.237-11, Accepting and Dispensing of \$1 Coin (Sep 2008) (31 U.S.C. 5112(p)(1)).

(d) **COMPTROLLER GENERAL EXAMINATION OF RECORD.** The Contractor shall comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does not contain the clause at 52.215-2, AUDIT AND RECORDS -- NEGOTIATION.

(1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.

(2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement. Records relating to appeals under the DISPUTES clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.

(3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.

(e) (1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c) and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in paragraphs (i) through (vii) of this paragraph, in a subcontract for commercial items. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause--

(i) 52.203-13, Contractor Code of Business Ethics and Conduct (Dec 2008) (Pub. L. 110-252, Title VI, Chapter 1 (41 U.S.C. 251 note)).

(ii) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$550,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(iii) 52.222-26, Equal Opportunity (Mar 2007) (E.O. 11246).

(iv) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans, (Sep 2006) (38 U.S.C. 4212).

(v) 52.222-36, Affirmative Action for Workers with Disabilities (Jun 1998) (29 U.S.C. 793).

(vi) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (Dec 2004) (E.O. 13201).

(vii) 52.222-41, Service Contract Act of 1965 (Nov 2007) (41 U.S.C. 351, et. seq.).

(viii) 52.222-50, Combating Trafficking in Persons (Aug 2007) (22 U.S.C. 7104(g)). Flow down required in accordance with paragraph (f) of FAR clause 52.222-50.

(ix) 52.225-51, Exemption from Application of the Service Contract Act to Contracts for Maintenance, Calibration, or Repair of Certain Equipment – Requirements (Nov 2007) (41 U.S.C. 351, et seq.).

(x) 52.222-53, Exemption from Application of the Service Contract Act to Contracts for Certain Services-Requirements (Feb 2009) (41 U.S.C. 351, et seq.).

(xi) 52.222-54, Employment Eligibility Verification (Jan 2009).

(xi) 52.222-53, Exemption from Application of the Service Contract Act to Contracts for Certain Services – Requirements (Nov 2007) (41 U.S.C. 351, et seq.).

(xii) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Feb 2006) (46 U.S.C. Appx. 1241(b) and 10 U.S.C. 2631). Flow down required in accordance with paragraph (d) of FAR clause 52.247-64.

(2) While not required, the Contractor may include in its subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(FAR 52.212-5)

11.05 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS APPLICABLE TO DEFENSE ACQUISITIONS OF COMMERCIAL ITEMS (JAN 2009)

(a) The Contractor agrees to comply with the following Federal Acquisition Regulation (FAR) clause which, if checked, is included in this contract by reference to implement a provision of law applicable to acquisitions of commercial items or components.

[X] 52.203-3, Gratuities (APR 1984) (10 U.S.C. 2207).

(b) The Contractor agrees to comply with any clause that is checked on the following list of Defense FAR Supplement clauses which, if checked, is included in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items or components.

[] (1) 252.203-7000, Requirements Relating to Compensation of Former DoD Officials (JAN 2009) (Section 847 of Pub. L. 110-181).

[X] (2) 252.205-7000, Provision of Information to Cooperative Agreement Holders (DEC 1991) (10 U.S.C. 2416).

- (3) 252.219-7003, Small Business Subcontracting Plan (DoD Contracts) (APR 2007) (15 U.S.C. 637).
- (4) 252.219-7004, Small Business Subcontracting Plan (Test Program) (AUG 2008) (15 U.S.C. 637 note).
- (5) 252.225-7001, Buy American Act and Balance of Payments Program (JAN 2009) (41 U.S.C. 10a-10d, E.O. 10582).
- (6) 252.225-7012, Preference for Certain Domestic Commodities (DEC 2008) (10 U.S.C. 2533a).
- (7) 252.225-7014, Preference for Domestic Specialty Metals (JUN 2005) (10 U.S.C. 2533a).
- (8) 252.225-7015, Restriction on Acquisition of Hand or Measuring Tools (JUN 2005) (10 U.S.C. 2533a).
- (9) 252.225-7016, Restriction on Acquisition of Ball and Roller Bearings (MAR 2006); (Section 8065 of Public Law 107-117 and the same restriction in subsequent DoD appropriations acts).
- (10) 252.225-7021, Trade Agreements (NOV 2008) (19 U.S.C. 2501-2518 and 19 U.S.C. 3301 note).
- (11) 252.225-7027, Restriction on Contingent Fees for Foreign Military Sales (APR 2003) (22 U.S.C. 2779).
- (12) 252.225-7028, Exclusionary Policies and Practices of Foreign Governments (APR 2003) (22 U.S.C. 2755).
- (13) (i) 252.225-7036, Buy American Act – Free Trade Agreements – Balance of Payments Program (JAN 2009) 41 U.S.C. 10a-10d and 19 U.S.C. 3301 note).
 - (ii) Alternate I (OCT 2006) of 252.225-7036.
- (14) 252.225-7038, Restriction on Acquisition of Air Circuit Breakers (JUN 2005) (10 U.S.C. 2534(a)(3)).
- (15) 252.226-7001, Utilization of Indian Organizations, Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns (SEP 2004) (Section 8021 of Pub. L. 107-248) and similar sections in subsequent DoD appropriations acts).
- (16) 252.227-7015, Technical Data – Commercial Items (NOV 1995) (10 U.S.C. 2320).
- (17) 252.227-7037, Validation of Restrictive Markings on Technical Data (SEP 1999) (10 U.S.C. 2321).
- (18) 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports (MAR 2008) (10 U.S.C. 2227).
- (19) 252.237-7019, Training for Contractor Personnel Interacting with Detainees (SEP 2006) (Section 1092 of Public Law 108-375).
- (20) 252.243-7002, Requests for Equitable Adjustment (MAR 1998) (10 U.S.C. 2410).
- (21) (i) 252.247-7023, Transportation of Supplies by Sea (MAY 2002) (10 U.S.C. 2631).
 - (ii) Alternate I (MAR 2000) of 252.247-7023.
 - (iii) Alternate II (MAR 2000) of 252.247-7023.
 - (iv) Alternate III (MAY 2002) of 252.247-7023.
- (22) 252.247-7024, Notification of Transportation of Supplies by Sea (MAR 2000) (10 U.S.C. 2631).

(c) In addition to the clauses listed in paragraph (e) of the CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS – COMMERCIAL ITEMS clause of this contract (FAR 52.212-5), the Contractor shall include the terms of the following clauses, if applicable, in subcontracts for commercial items or commercial components, awarded at any tier under this contract:

- (1) 252.225-7014, Preference for Domestic Specialty Metals, Alternate I (APR 2003) (10 U.S.C. 2533a).

- (2) 252.237-7019, Training for Contractor Personnel Interacting with Detainees (SEP 2006) (Section 1092 of Pubic Law 108-375).
- (3) 252.247-7023, Transportation of Supplies by Sea (MAY 2002) (10 U.S.C. 2631).
- (4) 252.247-7024, Notification of Transportation of Supplies by Sea (MAR 2000) (10 U.S.C. 2631).

(DFARS 252.212-7001)

ADDENDUM TO IL.03-1 (FAR 52.212-4)

II.20-1 CLAUSES AND PROVISIONS INCORPORATED BY REFERENCE (DESC JAN 2003)

(a) This clause incorporates contract clauses and solicitation provisions 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.

(b) The full text of any FAR, DFARS, or DLAD solicitation clause or provision may be accessed electronically at these addresses:

- FAR/DFARS:** <http://farsite.hill.af.mil>
- DLAD:** <http://www.dla.mil/j-3/j-336>

(c) **All DESC clauses and provisions are contained in full text in this document.**

(d) **Solicitation Provisions Only.** The offeror is cautioned that the solicitation provisions listed in (e)(1) below may include blocks that must be completed by the offeror and submitted with its quotation or offer. As long as the offeror identifies the solicitation provision by number, the offeror may simply complete those paragraphs requiring fill-in information to submit with its quotation or offer. In addition to the solicitation provisions listed in (e)(1) below, the contract clauses listed in (e)(2) below shall apply to any resultant contract but do not require the submission of additional offer information.

(e) The following FAR/DFARS/DLAD contract clauses and solicitation provisions are hereby incorporated by reference in addition to those listed in the CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS - COMMERCIAL ITEMS and the CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS APPLICABLE TO DEFENSE ACQUISITIONS OF COMMERCIAL ITEMS clauses:

<u>CONTRACT CLAUSE NUMBER</u>	<u>REGULATORY NUMBER</u>	<u>CLAUSE TITLE</u>
L2.11-2	FAR 52.215-5	FACSIMILE PROPOSAL (OCT 1997) <u>(c) (210) 925-9758</u>
L5.01-1	DLAD 52.233-9000	AGENCY PROTEST (APR 2006)
L74	FAR 52.216-1	TYPE OF CONTRACT (APR 1984) <u>Firm Fixed-Price Requirements-Type Contract</u>
F18	FAR 52.247-34	F.O.B. DESTINATION (NOV 1991)
F105	FAR 52.211-16	VARIATION IN QUANTITY (APR 1984) (b) <u>10% Increase</u> <u>10% Decrease</u> This increase or decrease shall apply to <u>CLINs 0001, 0002, 0003, 0007, 0008, 0009, 0010, 0011, 0016, 0017, 0018 and 0020</u>
II.07	DFARS 252.204-7004	CENTRAL CONTRACTOR REGISTRATION
II.04	DFARS 252.225-7002	QUALIFYING COUNTRY SOURCES AS SUBCONTRACTORS (APR 2003)
I25	FAR 52.227-1	AUTHORIZATION AND CONSENT (DEC 2007)
I84	FAR 52.216-21	REQUIREMENTS (OCT 1995)
I170	FAR 52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS (MAY 2004)
I198	DFARS 252.243-7001	PRICING OF CONTRACT MODIFICATIONS (DEC 1991)
I211	FAR 52.216-18	ORDERING (OCT 1995) <u>1 Sept 2009 through 30 Sept 2013 for CLINs 0003 – 0006, 0011, 0012 – 0015, 0018 and 0019; 1 Oct 2009 through 30 Sept 2013 for CLINs 0001, 0002, 0007 – 0010, 0016 and 0017; 1 Nov 2009 through 30 Sept 2013 for CLINs 0020 - 0025.</u>
I410	DFARS 252.232-7010	LEVIES ON CONTRACT PAYMENTS (DEC 2006) (DESC 52.252-9F08)

II.1.01-2 ADMINISTRATIVE COST OF TERMINATION FOR CAUSE – COMMERCIAL ITEMS (DESC FEB 1996)

(a) In the event this contract is terminated for cause, in whole or in part, the Government will incur administrative costs.

(b) The Contractor agrees to pay all administrative costs associated with a contract termination action. The minimum amount the Contractor shall pay for each termination action is \$500. This payment for administrative costs is in addition to any excess procurement costs and any other remedies or damages resulting from the termination.

(c) The term **termination action**, as used herein, means the termination for cause, including any associated procurement effort, involving--

- (1) Any single order or any group of orders terminated together;
- (2) Any item or group of items terminated together; or
- (3) The entire contract.

(DESC 52.249-9F20)

I190.06 MATERIAL SAFETY DATA SHEETS -- COMMERCIAL ITEMS (DESC MAR 2000)

(a) The Contractor agrees to submit to the Contracting Officer, upon request, a Material Safety Data Sheet (MSDS) that meets the requirements of 29 CFR 1910.1200(g) and the latest revision of Federal Standard No. 313 for all requested contract items. MSDSs must cite the contract number, the applicable CAGE code of the manufacturer, and, where so identified, the National Stock Number (NSN).

(b) The data on the MSDSs must be current and complete, reflecting the final composition of the product supplied. Should the description /composition of the product change in any manner from a previously submitted MSDS, the Contractor shall promptly provide a new MSDS to the Contracting Officer.

(DESC 52.223-9F06)

I209.09 EXTENSION PROVISIONS (DESC APR 2003)

(a) The DESC Contracting Officer reserves the right to unilaterally extend this contract on the same terms and conditions one or more times for a total of no more than six months. Notice of contract extension will be furnished to the Contractor 30 days prior to expiration of this contract or any extension thereof. However, nothing in this clause precludes the Contractor from agreeing to an extension of the contract if the DESC Contracting Officer fails to issue the notice within the 30 day time frame.

(b) The foregoing extension may be exercised by the DESC Contracting Officer where continued performance is required until a follow-on contract is awarded or, in the event a follow-on contract has been awarded, until a succeeding Contractor is positioned to commence performance.

(c) Extension of this contract shall be considered to have been accomplished at the time the DESC Contracting Officer provides written notification to the Contractor by facsimile or by mail.

(DESC 52.217-9F20)

I260 WHISTLEBLOWER PROTECTION FOR CONTRACTOR EMPLOYEES (DESC OCT 2004)

(a) The Contractor shall comply with the requirements at 10 CFR Part 708, Department of Energy (DOE) Contractor Employee Protection Program, for work performed on behalf of DOE directly related to activities at DOE-owned or leased sites.

(b) The Contractor shall insert or have inserted the substance of this clause including this paragraph (b) in subcontracts at all tiers, for subcontracts involving work performed on behalf of DOE directly related to activities at DOE-owned or leased sites.

(DESC 52.203-9F10)

PART III – CONTRACT DOCUMENTS AND OTHER ATTACHMENTS

(1) A-A-59503B, 20 October 2008, COMMERCIAL ITEM DESCRIPTION NITROGEN, TECHNICAL	Attachment 1
(2) MIL-PRF-25508G, 21 November 2006, PERFORMANCE SPECIFICATION, PROPELLANT, OXYGEN	Attachment 2
(3) MIL-PRF-27415B, 08 February 2007, PERFORMANCE SPECIFICATION, PROPELLANT PRESSURIZING AGENT, ARGON	Attachment 3
(4) MIL-PRF-27401F, 10 January 2008, PERFORMANCE SPECIFICATION, PROPELLANT PRESSURIZING AGENT, NITROGEN	Attachment 4
(5) Argon, 11 May 2005, DESC PURCHASE DESCRIPTION ARGON, LOW-WATER and ULTRAPURE	Attachment 5
(6) FORM H-14 TRANSPORT EQUIPMENT DELAY CERTIFICATE	Attachment 6
(7) Contractor Past Performance Data Sheet	Attachment 7
(8) Sub-Contracting Plan	Attachment 8

PART IV – SOLICITATION PROVISIONS

INSTRUCTIONS TO OFFERORS – COMMERCIAL ITEMS

ADDENDUM TO L2.05 [FAR 52.212-1- INSTRUCTIONS TO OFFERORS – COMMERCIAL ITEMS (JUN 2008)]

L1.02 PROPOSAL ACCEPTANCE PERIOD (DESC NOV 1991)

(a) **Acceptance period**, as used in this provision, means the number of calendar days available to the Government for awarding a contract from the date specified in this solicitation for receipt of proposals.

- (b) This provision supersedes any language pertaining to the acceptance period that may appear elsewhere in this solicitation.
- (c) The Government requires a minimum acceptance period of 120 calendar days.
- (d) If the offeror specifies an acceptance period which is less than that required by the Government, such offer may be rejected.
- (e) The offeror agrees to execute all that it has undertaken to do, in compliance with its offer, if such offer is acceptable to the Government and is accepted within the acceptance period stated in (c) above or within any extension thereof that has been agreed to by the offeror.

(DESC 52.215-9FB1)

L2.11-4 E-MAIL PROPOSALS (DESC APR 2005)

- (a) Offerors may submit proposals via e-mail. E-mail proposals are subject to the same rules as paper proposals.
- (b) E-mail receiving data and compatibility characteristics are as follows:
- (1) E-mail address: Janell.Davila@dla.mil.
 - (2) The Defense Energy Support Center accepts attachments in—
 - (i) Adobe Acrobat;
 - (ii) Microsoft Excel;
 - (iii) Microsoft Word; and
 - (iv) Microsoft PowerPoint.
- (c) Initial proposals, modifications and proposal revisions submitted via e-mail must contain a signature.
- (d) Attachments that are not in .pdf file format must be sent password protected for “read only” to ensure the integrity of the data submitted.
- (e) Proposals submitted electronically through a single e-mail must be no more than 15 MB. DESC’s mail server will reject messages larger than 15 MB.
- (f) The DESC e-mail filter will scan the incoming e-mail and attachments for viruses and key words. Abbreviations for terms such as “Analysts” or using “3Xs” as placeholders in a document are found in the filter’s adult content library and may result in the e-mail delivery being delayed. Offerors are encouraged to verify receipt of e-mail offers by contacting the Contracting Officer prior to the solicitation closing time.
- (g) If any portion of an e-mail proposal received by the Contracting Officer is unreadable, the Contracting Officer will immediately notify the offeror and permit the offeror to resubmit the proposal. The method and time for resubmission shall be prescribed by the Contracting Officer after consultation with the offeror and the resubmission shall be considered as if it were received at the date and time of the original unreadable submission for the purpose of determining timeliness, provided the offeror complied with the e-mail submissions instructions provided in this paragraph and with the time and format requirements for resubmission prescribed by the Contracting Officer.
- (h) The Government reserves the right to make award solely on the e-mail proposal. However, if requested to do so by the Contracting Officer, the apparently successful offeror promptly shall submit the complete signed original proposal.

(DESC 52.215-9FA8)

L2.35 PROPOSAL FORMAT AND CONTENT (AEROSPACE ENERGY) (DESC OCT 2008)Proposals shall be submitted in two sections and clearly labeled **Price Proposal** and **Technical Proposal**.**(a) PRICE PROPOSAL.**

- (1) In the Schedule, Section B, Supplies or Services and Prices/Costs, offered prices shall be completed for each Contract Line Item Number (CLIN) unless the Schedule notes that multiple awards will be made. In that case, the offeror may select which CLINs or groups of CLINs, such as those applying to a specific customer location, against which to submit an offer;
- (2) For each applicable box checked below, unit prices shall be formulated, as specified:
- (i) **Product with no Monthly Facility Fee (MFF).** The offeror shall include all fixed, variable and incremental costs to produce and prepare product for Government inspection and acceptance. Include all transportation and shipping costs to deliver the product to the specified customer location if the product CLIN is designation as f.o.b. destination. For this solicitation, the applicable CLINs are 0001, 0002, 0003, 0007, 0008, 0009, 0010, 0011, 0016, 0017, 0018 and 0020.
- (ii) **Product with an MFF CLIN.** The offeror shall include only the variable and incremental costs to produce and prepare the product for Government inspection and acceptance in the product CLIN. All fixed costs associated with the facility shall be included in the MFF, to include storage and distribution of Government-owned product, if required by the Statement of Objectives (SOO). For this solicitation, the applicable CLINs are [Buyer fill in the CLIN(s)] _____.
- (iii) **Services CLIN(s), such as maintenance and repair of containers.** The offeror shall include all variable and fixed costs associated with the service, as described in the SOO, unless otherwise noted herein that those costs should be included in another CLIN: [Buyer fill in the CLIN(s) or put N/A if not applicable] _____. For this solicitation, the applicable Services CLINs are [Buyer fill in the CLIN(s)] _____.

(iv) **Repair Parts Specifically Identified in the Schedule.** Where the Government specifically identifies repair parts which will be reimbursed under the Contract, the offeror shall include in its offered price, on a per unit basis, all costs associated with that repair part, to include the applicable labor costs to install it. For this solicitation, the applicable CLINS are *[Buyer fill in the CLIN(s)]*

(v) **Contractor-Provided Tank(s) CLIN(s).** The offeror shall include in each applicable CLIN all fixed and variable costs associated with leasing of a tank or multiple tanks to the Government under the contract. Separate CLINS have been established for the costs associated with the leasing of the tank(s) as compared to the costs associated with the tank(s) installation and removal. Where the incumbent is offering the same number and size of tanks previously provided under the previous contract, the incumbent need not propose a price for tank(s) installation. However, the incumbent shall propose a price for tank(s) removal. For this solicitation, the applicable CLINS are 0004, 0012, 0021, and 0022.

(vi) **Contractor provided equipment CLIN(s).** Where the SOO requires specific contractor-provided equipment for which a separate CLIN has been established for reimbursement under the resultant contract, the offeror shall include all fixed and variable costs associated with providing such equipment, to include but not limited to delivery, installation, calibration, maintenance and repair throughout the contract term, and removal at the expiration of the contract. For this solicitation, the applicable CLINS are 0005, 0006, 0014, 0015, 0024, and 0025.

(vii) **Expedited/Emergency Delivery CLIN(s).** Where the Schedule has a CLIN for Expedited and/or Emergency delivery, as defined in the SOO, the offeror shall include all costs associated with such delivery on a per shipment basis. This encompasses additional labor and transportation costs anticipated to be incurred over and above normal delivery costs. Any product ordered with an Expedited and/or Emergency delivery shall be paid at the unit price of the applicable product CLIN. For this solicitation, the applicable CLINS are 0013, 0019 and 0023.

(viii) **Hot Fill CLIN(s).** If the solicitation includes a "Hot Fill" CLIN, the offeror shall propose a per Hot Fill Unit Price. Examples of costs that should be included in the offeror's per Hot Fill Unit Price but not limited to these, are additional support personnel required to accomplish the Hot Fill or additional time required at the delivery location in support of the Hot Fill. The per Hot Fill Unit Price shall not include the cost of the product consumed during the Hot Fill since the Contractor will be paid for the amount of product consumed under the applicable product CLIN. For this solicitation, the applicable CLINs are 0001AE, 0002AE, 0010AE, 0016AE, 0017AE, 0018AE, and 0020AE.

(ix) **Additional CLIN(s) not described above to be priced by the offeror.** For this solicitation, the applicable CLINs are 0016AF, 0017AF and 0026.

(x) **Not Separately Priced (NSP) CLIN(s).** For CLINs shown as NSP, the offeror shall include the costs associated with that CLIN in the designated CLIN's unit price. For this solicitation, the applicable Services CLINs are *[Buyer fill in the CLIN(s)]*

(xi) **To Be Negotiated (TBN) CLIN(s).** For those CLINs designated as TBN, the Government will negotiate a unit price on a case-by-case basis, if and when requirements under the CLIN materialize. In order for the Government to add such a requirement to the contract under the TBN CLIN, the unit price must be determined fair and reasonable. For this solicitation, the applicable CLINs are *[Buyer fill in the CLIN(s)]*

(xii) **Exceptions to the above.**

(3) The Standard Form 1449 must be completed, as well as the MANUFACTURING AND FILLING POINTS and TRANSPORT TRUCK AND/OR TRUCK AND TRAILER FREE TIME AND DETENTION RATES (AEROSPACE ENERGY) clauses, if included, and all certifications and representations contained in Section K of the solicitation; and

(b) **TECHNICAL PROPOSAL.**

(1) **NONCOST FACTOR 1 – TECHNICAL CAPABILITY.** The offeror shall provide a technical proposal by completing the fill-in data requested in paragraphs (b)(1)(i) through (b)(1)(iv) and attaching supply commitment letters requested in paragraph (b)(1)(iv). The offeror may submit continuation sheets with this fill-in provision to provide additional technical narrative, however, the complete technical proposal, exclusive of any résumés, drawings, or blueprints, shall not exceed 12 pages. The proposal will be evaluated strictly on technical merit and should describe and justify the offeror's technical approach to the requirements of the work to be performed and/or delivery of product under the contract. The technical proposal should be specific and provide concise, straight-forward descriptions of the offeror's capability to perform the requirements of the contract. Proposals that are unrealistic in terms of the description of the offeror's technical capability may be considered indicative of a lack of understanding of the solicitation's requirements. Technical proposals shall include the following (any element you do not address shall be identified as **N/A**) and **apply only if the applicable box is checked:**

(i) General description of how the offeror will ensure a reliable supply of on-spec product and/or service to meet the Government's requirements as stated in the solicitation.

(A) Production capability per day of proposed fill plant.

(B) Plant storage capacity for product offered.

(C) If the offeror will be making deliveries to customers, describe type, number and size of containers that will be used for delivery of product to each customer location that the offeror proposes on.

(D) If the contract requires maintenance and repair of Government-owned equipment, such as repairs to cylinders or tube trailers, describe how such services will be performed to meet solicitation requirements.

(E) Describe the in-process quality control procedures that will ensure the production and delivery of on-spec product.

(F) Describe offeror's proposed quality sampling plan that will be implemented to assure individual shipments made under this solicitation meet the product quality requirements stated in the applicable specification or product description.

(ii) Description of Contractor-furnished equipment at a location other than the Contractor's facility (e.g., on Government property) such as storage tanks.

(A) Describe all Contractor provided equipment to include a description of size, certifications, instrumentation (including alarms), design parameters, etc.

(B) Include a timeline for the purchase, installation, testing and commissioning of the equipment.

(iii) Describe the method for securing delivery container(s) and/or cargo tank openings with tamper indicating devices (i.e., seals) to prevent tampering and/or pilferage from the time the cargo tank is loaded until it is delivered to its destination. (Refer to the CONTRACTOR SEAL REQUIREMENT clause.)

(iv) For solicitations containing product CLINs, if the offeror is not the manufacturer of the product to be delivered under the contract, the offeror shall provide a detailed description of where the product(s) will be obtained. The offeror shall attach any written supply commitments that clearly indicate--

(A) The offeror's supplier is willing to provide the products and/or services required to be delivered/performed under any resultant contract for the duration of the delivery period shown in the Schedule; and

(B) Confirmation of the quantity and specification of the products to be delivered;

(v) This paragraph describes additional information for the Technical Proposal not asked for in above paragraphs.

(2) **NONCOST FACTOR 2 – PAST PERFORMANCE.** The offeror shall submit information regarding its past performance on the form entitled Contractor Performance Data Report, as attached to the solicitation. All contracts and subcontracts (completed or in progress) for the last three years awarded by DESC as well as other (completed or in progress) Government agencies or the private sector that are related to the proposed contract shall be included on the form. Failure to submit a complete list may reflect adversely on the offeror. The number of relevant past performance efforts submitted in accordance with the attachment shall not exceed five for the prime offeror. The Government reserves the right to make telephone contact with offerors, proposed subcontractors and references in order to confirm and/or clarify the past performance information submitted. The Government has the option to consider information from these sources, and any others that may be available, that it deems necessary in order to make an accurate assessment of the offeror's past performance. In addition, the offeror should provide additional information on any significant problems encountered and corrective actions taken under contract(s) which would otherwise cause an unacceptable rating in this factor.

(c) **EXCEPTIONS.** Exceptions (price or technical) taken to the terms and conditions of the solicitation and/or any of its formal attachments shall be identified. Each exception shall be specifically related to each paragraph and/or specific part of the solicitation to which the exception is taken. Provide rationale in support of the exception and fully explain the impact, if any, on the performance, price, and specific requirements of the solicitation. Failure to comply with the terms and conditions of the solicitation may result in the offeror being removed from consideration for award.

(DESC 52.215-9F98)

L54.02 SITE VISIT (AEROSPACE ENERGY) (DESC APR 2006)

(a) It is the responsibility of the offerors to inspect the site where supplies are to be delivered and/or services are to be performed and to obtain all available information about the site necessary to satisfy themselves about general and local conditions that may affect delivery as well as cost of contract performance, to the extent that the information is reasonably obtainable. Offerors are responsible for any costs incurred for any site inspection and for obtaining information.

(b) In no event shall failure to inspect the site constitute grounds for a claim after contract award.

(c) Offerors who are interested in a site inspection should not contact the customer(s) directly, but forward such request(s), in writing, directly to the DESC Point of Contact for this procurement, shown in Block 7 of the Standard Form 1449.

(DESC 52.237-9F06)

EVALUATION – COMMERCIAL ITEMS**M2.14 EVALUATION – COMMERCIAL ITEMS (AEROSPACE ENERGY) (DESC OCT 2008)**

(a) Award will be made on the basis of proposals meeting or exceeding the specific evaluation criteria contained in the solicitation. Non-cost factors to be evaluated shall be technical capability and past performance. In accordance with FAR 15.101-2(b)(3), proposals will be evaluated for acceptability but not ranked using the non-cost/price factors.

(b) Technical capability will be measured against requirements specified in the solicitation. As such, technical capability is considered acceptable when the offeror's proposal is in compliance with the requirements of the solicitation. Specific criteria used to judge acceptability are as follows and apply ONLY if the applicable box is checked:

(1) Acceptability of the narrative describing how the offeror will ensure a reliable supply of on-spec product and/or services to meet the annual estimated quantities in the RFP's Schedule.

(2) Acceptability of the narrative describing any Contractor-furnished equipment at a location other than the Contractor's facility (e.g., on Government property).

(3) Acceptability of method for securing delivery container and/or cargo tank openings with indicating devices (i.e., seals) to prevent tampering and/or pilferage from the time the cargo tank is loaded until it is delivered to its destination.

(4) Acceptability of the offeror's description of where the product(s) will be obtained and any written supply commitments if the offeror is not the producer of the product to be delivered under the contract.

(5) This paragraph describes additional criteria used to evaluate technical capability not described in the above paragraphs, if applicable.

(c) Past performance shall generally include verification of performance with the offeror's past and current customers, to include Federal, State, and local governments as well as private entities. The form entitled Contractor Performance Data Sheet, located in Section J of the solicitation, may be used to provide relevant performance history pursuant to this solicitation. In accordance with FAR 15.305(a)(2)(iv), offerors without a record of relevant past performance or for whom information on past performance is not available may not be evaluated favorably or unfavorably on past performance. Additionally, past performance data may be obtained through the Past Performance Information Retrieval System, similar systems or other Government departments and agencies, questionnaires tailored to the circumstances of this acquisition, Defense Contract Management Agency channels, interviews with program managers and contracting officers, and other sources known to the Government (including commercial sources). Offerors will be given the opportunity to address any negative performance information resulting from the past performance assessment inquiries.

(d) An offeror whose proposal is evaluated as acceptable from both a technical capability perspective as well as for past performance will be considered technically acceptable.

(e) After evaluating technical capability and past performance, the Contracting Officer will award based on the following price evaluation procedure(s) and only apply if the applicable box is checked:

(1) **For F.O.B. Origin product CLINs.** For price evaluation purposes, the evaluated price of each CLIN or subCLIN for product (AA through ____) [*Buyer fill in the CLIN(s)*] to be delivered on an f.o.b. origin basis will be calculated by multiplying the estimated quantity by the proposed unit price of the product. To each CLIN/subCLIN, the Government will add as an "other price-related factor," the Government's estimated costs for transporting the product from the offeror's proposed fill plant, production facility, and/or storage facility, as stated in the offeror's proposal, to the individual customer locations designated in an attachment to the solicitation. The estimated number of shipments shown in the attachment will also apply. The lowest laid down price is calculated by adding the sum of the evaluated prices for each CLIN/subCLIN to the Government's total estimated cost for transportation and the total of all "other price related factors", if any, as described in the paragraph below. Transportation rates are derived from--

(i) For CONUS locations, the Surface Deployment and Distribution Command's (SDDC's) competitively awarded contracts will be used.

(ii) For OCONUS locations, the Government rates for both air and sea transportation will be taken from the DoD's Single Mobility System (SMS) Air Cargo/PAX Cost Calculator.

(2) **For F.O.B. Destination product CLINs.** For price evaluation purposes, the evaluated price of each CLIN or subCLIN for product (AA through AD) 0001, 0002, 0003, 0007, 0008, 0009, 0010, 0011, 0016, 0017, 0018 and 0020 will be calculated by multiplying the estimated quantity by the proposed unit price of the product(s), which should include all costs associated with the offeror's delivery of product to the location specified in the Schedule. F.o.b. destination CLINs are normally individual DESC customer locations, unless otherwise specified.

(3) **Non-product CLINs/subCLINs.** For price evaluation purposes, the following non-product CLINs/subCLINs will be evaluated for award: 0004, 0006, 0012, 0013, 0015, 0016AF, 0017AF, 0019, 0021, 0022, 0023, and 0025. Each non-product CLIN/subCLIN's evaluated price will be calculated by multiplying the estimated quantity by the offered unit price. Offerors who do not propose on all non-product CLINs and subCLINs stated in the Schedule (where one award will be made), or where a group of CLINs/subCLINs will be evaluated for award, or where the Schedule contains specific customer locations to be evaluated and awarded, may not be considered for evaluation and award unless the offeror proposes prices on all applicable CLINs/subCLINs.

[X] (4) This paragraph describes the evaluation process for product or non-product CLINs/subCLINs or additional “other price related factors” not otherwise described in any of the above paragraphs, if applicable. **For the Tank and Equipment Installation CLINs, specifically 0005, 0014 and 0024, the evaluated price will be calculated by multiplying the estimated quantity by the offered unit price for all offerors, other than the incumbent.**

[X] (5) The offered prices for the following CLINs/subCLINs will not be included in the evaluation for award, but will be evaluated for price reasonableness and included as a CLIN/subCLIN in each contract award: **0001AE, 0002AE, 0010AE, 0016AE, 0017AE, 0018AE, 0020AE, and 0026.**

[] (6) **Lowest Total Evaluated Price for F.O.B. Origin Requirements.** If Schedule B includes both f.o.b. origin product CLINs as well as non-product CLINs that are to be evaluated in accordance with this provision, the evaluated prices for all the non-product CLINs will be added to the lowest laid down price of all the product CLINs that are otherwise designated as one group, such as in a region, to determine the lowest total evaluated price. Otherwise, only the product CLINs (or those applicable to the designated group) will be added to determine the lowest total evaluated price. If no region or group is designated in the Schedule, all the evaluated prices of all the CLINs in the solicitation will be added together for determination of the lowest total evaluated price.

[X] (7) **Lowest Total Evaluated Price for F.O.B. Destination Requirements.** If Schedule B includes both f.o.b. destination product CLINs as well as non-product CLINs that are to be evaluated in accordance with this provision, the evaluated prices for all the non-product CLINs will be added to the evaluated price(s) of the applicable f.o.b. destination product CLINs to determine the lowest total evaluated price. Otherwise, only the product CLINs applicable to the group or designated customer location will be added to determine the lowest total evaluated price. Where more than one customer location is contained in the Schedule, the lowest total evaluated price shall be all product CLINs and non-product CLINs for a specific customer location, added together.

[] (8) If Schedule B is for services only and as such does not include any product CLINs, the total evaluated price will be the total of the evaluated prices for all the services CLINs, as designated in paragraph (e)(3) above.

(f) If options are included, the Government will evaluate offered prices by using the same price evaluation procedures as described above, except, as follows: ***[Buyer fill in or indicate N/A.]*** _____

The Government may determine that an offered price under an option CLIN is unacceptable if the option prices are significantly unbalanced. Evaluation of options shall not obligate the Government to exercise the option(s).

(g) **BASIS FOR AWARD.** The Contracting Officer will award to the responsible, technically acceptable offeror with the lowest total evaluated price for the designated group of CLINs and/or customer locations, including options, if contained in the solicitation. If group(s) of CLINs or individual customer locations are not otherwise designated in the Schedule, only one contract will be awarded for all the CLINs specified in the Schedule. Where the Government is soliciting for a group of CLINs, such as on a regional basis, as well as for individual customer locations on a f.o.b. destination basis, more than one contract award may be made as price evaluation and award will be made on a customer location by customer location basis.

(h) A written notice of award or acceptance of offer, mailed or otherwise furnished to the successful offeror within the time for acceptance specified in the offer, shall result in a binding contract without further action by either party. Before the offer’s specified expiration time, the Government may accept an offer (or part of an offer), whether or not there are negotiations after its receipt, unless a written notice of withdrawal is received before award.

(DESC 52.212-9F70)

OFFEROR REPRESENTATIONS AND CERTIFICATIONS – COMMERCIAL ITEMS

K1.01-10 OFFEROR REPRESENTATIONS AND CERTIFICATIONS - COMMERCIAL ITEMS (ALTERNATES I/II) (JUN 2008/APR 2002/OCT 2000)

An offeror shall complete only paragraph (b) of this provision if the offeror has completed the annual representations and certifications electronically at <http://orca.bpn.gov>. If an offeror has not completed the annual representations and certifications electronically at the ORCA website, the offeror shall complete only paragraphs (c) through (m) of this provision.

(a) **DEFINITIONS.** As used in this provision--

Emerging small business means a small business concern whose size is no greater than 50 percent of the numerical size standard for the NAICS code designated.

Forced or indentured child labor means all work or service—

(1) Exacted from any person under the age of 18 under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily; or

(2) Performed by any person under the age of 18 pursuant to a contract, the enforcement of which can be accomplished by process of penalties.

Manufactured end product means any end product in Federal Supply Classes (FSC) 1000-9999, except--

(1) FSC 5510, Lumber and Related Basic Wood Materials;

- (2) Federal Supply Group (FSG) 87, Agricultural Supplies;
- (3) FSG 88, Live Animals;
- (4) FSG 89, Food and Related Consumables;
- (5) FSC 9410, Crude Grades of Plant Materials;
- (6) FSC 9430, Miscellaneous Crude Animal Products, Inedible;
- (7) FSC 9440, Miscellaneous Crude Agricultural and Forestry Products;
- (8) FSC 9610, Ores;
- (9) FSC 9620, Minerals, Natural and Synthetic; and
- (10) FSC 9630, Additive Metal Materials.

Place of manufacture means the place where an end product is assembled out of components, or otherwise made or processed from raw materials into the finished product that is to be provided to the Government. If a product is disassembled and reassembled, the place of reassembly is not the place of manufacture.

Restricted business operations means business operations in Sudan that include power production activities, mineral extraction activities, oil-related activities, or the production of military equipment, as those terms are defined in the Sudan Accountability and Divestment Act of 2007 (Pub. L. 110-174). Restricted business operations do not include business operations that the person conducting the business can demonstrate--

- (1) Are conducted under contract directly and exclusively with the regional government of southern Sudan;
- (2) Are conducted pursuant to specific authorization from the Office of Foreign Assets Control in the Department of the Treasury, or are expressly exempted under Federal law from the requirement to be conducted under such authorization;
- (3) Consist of providing goods or services to marginalized populations of Sudan;
- (4) Consist of providing goods or services to an internationally recognized peacekeeping force or humanitarian organization;
- (5) Consist of providing goods or services that are used only to promote health or education; or
- (6) Have been voluntarily suspended.

Service-disabled veteran-owned small business concern--

- (1) Means a small business concern—
 - (i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and
 - (ii) The management and daily business operations are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.
- (2) **Service-disabled veteran** means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and size standards in this solicitation.

Veteran-owned small business concern means a small business concern--

- (1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly-owned business, not less than 51 percent of the stock of which is owned by one or more veterans, and
- (2) The management and daily business operations of which are controlled by one or more veterans.

Women-owned business concern means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

Women-owned small business concern means a small business concern--

- (1) That is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and
- (2) Whose management and daily business operations are controlled by one or more women.

(b) (1) **ANNUAL REPRESENTATIONS AND CERTIFICATIONS.** Any changes provided by the offeror in paragraph (b)(2) of this provision do not automatically change the representations and certifications posted on the Online Representations and Certifications Application (ORCA) website.

(2) The offeror has completed the annual representations and certifications electronically via the ORCA website at <http://orca.bpn.gov>. After reviewing the ORCA database information, the offeror verifies by submission of this offer that the representations and certifications currently posted electronically at FAR 52.212-3, OFFEROR REPRESENTATIONS AND CERTIFICATIONS – COMMERCIAL ITEMS, have been entered or updated in the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201), except for paragraphs _____. **[Offeror to identify the applicable paragraphs at (c) through (m) of this provision that the offeror has completed for the purposes of this solicitation only, if any. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and**

complete as of the date of this offer. Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on ORCA.]

(c) Offerors must complete the following representations when the resulting contract is to be performed in the United States or its outlying areas. Check all that apply.

(1) **SMALL BUSINESS CONCERN.** The offeror represents as part of its offer that it--

is
 is not

a small business concern.

(2) **VETERAN-OWNED SMALL BUSINESS CONCERN.** (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents as part of its offer that it--

is
 is not

a veteran-owned small business concern.

(3) **SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS CONCERN.** (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(2) of this provision.) The offeror represents as part of its offer that it--

is
 is not

a service-disabled veteran-owned small business concern.

(4) **SMALL DISADVANTAGED BUSINESS CONCERN.** (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents, for general statistical purposes, that it--

is
 is not

a small disadvantaged business concern as defined in 13 CFR 124.1002.

(5) **WOMEN-OWNED SMALL BUSINESS CONCERN.** (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents that it--

is
 is not

a woman-owned small business concern.

NOTE: Complete paragraphs (c)(6) and (c)(7) only if this solicitation is expected to exceed the simplified acquisition threshold.

(6) **WOMEN-OWNED BUSINESS CONCERN (OTHER THAN SMALL BUSINESS CONCERN).** (Complete only if the offeror is a women-owned business concern and did not represent itself as a small business concern in paragraph (c)(1) of this provision.) The offeror represents that it -

is

a women owned business concern.

(7) **TIE BID PRIORITY FOR LABOR SURPLUS AREA CONCERNS.** If this is an invitation for bid, small business offerors may identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of the contract price.

(8) SMALL BUSINESS SIZE FOR THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM AND FOR THE TARGETED INDUSTRY CATEGORIES UNDER THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM. (Complete only if the offeror has represented itself to be a small business concern under the size standards for this solicitation.)

(i) **(Complete only for solicitations indicated in an addendum as being set-aside for emerging small businesses in one of the designated industry groups (DIGs)).** The offeror represents as part of its offer that it--

- is
- is not

an emerging small business.

(ii) **(Complete only for solicitations indicated in an addendum as being for one of the targeted industry categories (TICs) or designated industry groups (DIGs)).** The offeror represents as follows:

(A) The offeror's number of employees for the past 12 months (check the Employees column if size standard stated in the solicitation is expressed in terms of number of employees); or

(B) The offeror's average annual gross revenue for the last 3 fiscal years (check the Average Annual Gross Number of Revenues column if size standard stated in the solicitation is expressed in terms of annual receipts).

(Check one of the following:)

<u>NUMBER of EMPLOYEES</u>	<u>AVERAGE ANNUAL GROSS REVENUES</u>
<input type="checkbox"/> 50 or fewer	<input type="checkbox"/> \$1 million or less
<input type="checkbox"/> 51 - 100	<input type="checkbox"/> \$1,000,001 - \$2 million
<input type="checkbox"/> 101 - 250	<input type="checkbox"/> \$2,000,001 - \$3.5 million
<input type="checkbox"/> 251 - 500	<input type="checkbox"/> \$3,500,001 - \$5 million
<input type="checkbox"/> 501 - 750	<input type="checkbox"/> \$5,000,001 - \$10 million
<input type="checkbox"/> 751 - 1,000	<input type="checkbox"/> \$10,000,001 - \$17 million
<input type="checkbox"/> Over 1,000	<input type="checkbox"/> Over \$17 million

(9) (Complete only if the solicitation contains the clause at FAR 52.219-23, NOTICE OF PRICE EVALUATION ADJUSTMENT FOR SMALL DISADVANTAGED BUSINESS CONCERNS, or FAR 52.219-25, SMALL DISADVANTAGED BUSINESS PARTICIPATION PROGRAM - DISADVANTAGED STATUS AND REPORTING, and the offeror desires a benefit based on its disadvantaged status.)

(i) **GENERAL.** The offeror represents that either--

(A) It--

- is
- is not

certified by the Small Business Administration as a small disadvantaged business concern and identified, on the date of this representation, as a certified small disadvantaged business concern in the database maintained by the Small Business Administration (PRO-Net), and that no material change in disadvantaged ownership and control has occurred since its certification, and, where the concern is owned by one or more individuals claiming disadvantaged status, the net worth of each individual upon whom the certification is based does not exceed \$750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); or

(B) It--

- has
- has not

submitted a completed application to the Small Business Administration or a Private Certifier to be certified as a small disadvantaged business concern in accordance with 13 CFR 124, Subpart B, and a decision on that application is pending, and that no material change in disadvantaged ownership and control has occurred since its application was submitted.

(ii) **JOINT VENTURE UNDER THE PRICE EVALUATION ADJUSTMENT FOR SMALL**

DISADVANTAGED BUSINESS CONCERNS. The offeror represents, as part of its offer, that it is a joint venture that complies with the requirements in 13 CFR 124.1002(f) and that the representation in paragraph (c)(9)(i) of this provision is accurate for the small disadvantaged business concern that is participating in the joint venture. The offeror shall enter the name of the small disadvantaged business concern that is participating in the joint venture: _____.

(iii) **ADDRESS.** The offeror represents that its address—

- is
 is not

in a region for which a small disadvantaged business procurement mechanism is authorized and its address has not changed since its certification as a small disadvantaged business concern or submission of its application for certification. The list of authorized small disadvantaged business procurement mechanisms and regions is posted at <http://www.arnet.gov/References/sdbadjustments.htm>. The offeror shall use the list in effect on the date of this solicitation. **Address**, as used in this provision, means the address of the offeror as listed on the Small Business Administration's register of small disadvantaged business concerns or the address on the completed application that the concern has submitted to the Small Business Administration or a Private Certifier in accordance with 13 CFR part 124, subpart B. For joint ventures, **address** refers to the address of the small disadvantaged business concern that is participating in the joint venture.

(10) **HUBZONE SMALL BUSINESS CONCERN. (Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.)** The offeror represents as part of its offer that--

(i) It--

- is
 is not

a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns Maintained by the Small Business Administration, and no material change in ownership and control, principal office, or HUBZone employee percentage has occurred since it was certified by the Small Business Administration in accordance with 13 CFR Part 126; and

(ii) It--

- is
 is not

a joint venture that complies with the requirements of 13 CFR Part 126, and the representation in paragraph (c)(10)(i) of this provision is accurate for the HUBZone small business concern or concerns that are participating in the joint venture. **(The offeror shall enter the name or names of the HUBZone small business concern or concerns that are participating in the joint venture: _____.)**

Each HUBZone small business concern participating in the joint venture shall submit a separate signed copy of the HUBZone representation.

(11) **(Complete if the offeror represented itself as disadvantaged in paragraph (c)(4) or (c)(9) of this provision.)** The offeror shall check the category in which its ownership falls:

- Black American
- Hispanic American
- Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).
- Asian-Pacific American (persons with origin from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, U.S. Trust Territory of the Pacific Islands (Republic of Palau), Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

Subcontinent Asian (Asian-Indian) American (persons with origins from India, Pakistan, Bangladesh, Sri Lanka, Bhutan, the Maldives Islands, or Nepal).

Individual/concern, other than one of the preceding.

(d) REPRESENTATIONS REQUIRED TO IMPLEMENT PROVISIONS OF EXECUTIVE ORDER 11246.

(1) PREVIOUS CONTRACTS AND COMPLIANCE. The offeror represents that--

(i) It--

has

has not

participated in a previous contract or subcontract subject to the EQUAL OPPORTUNITY clause of this solicitation;

and

(ii) It--

has

has not

filed all required compliance reports.

(2) AFFIRMATIVE ACTION COMPLIANCE. The offeror represents that--

(i) It--

has developed and has on file

has not developed and does not have on file

at each establishment, affirmative action programs required by rules and regulations of the Secretary of Labor (41 CFR Subparts 60-1 and 60-2), or

(ii) It--

has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(e) CERTIFICATION REGARDING PAYMENTS TO INFLUENCE FEDERAL TRANSACTIONS (31 U.S.C. 1352).

(Applies only if the contract is expected to exceed \$100,000). By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract. If any registrants under the Lobbying Disclosure Act of 1995 have made a lobbying contact on behalf of the offeror with respect to this contract, the offeror shall complete and submit, with its offer, OMG Standard Form LLL, Disclosure of Lobbying Activities, to provide the name of the registrants. The offeror need not report regularly employed officers or employees of the offeror to whom payments of reasonable compensation were made.

(f) TRADE AGREEMENTS CERTIFICATE (JAN 2005) (DFARS 252.225-7020). (Applies only if DFARS clause 252.225-7021, TRADE AGREEMENTS (MAR 2007), is incorporated by reference in this solicitation.) DFARS 252.225-7020 is hereby incorporated by reference in its entirety; only the certification portion is reproduced below.

(1) For all line items subject to the TRADE AGREEMENTS clause of this solicitation, the offeror certifies that each end product to be delivered under this contract, except those listed in subparagraph (2) below, is a U.S.-made qualifying country, or designated country end product.

(2) The following supplies are other nondesignated country end products:

(Line item no.)

(Country of origin)

(g) BUY AMERICAN ACT – FREE TRADE AGREEMENTS – BALANCE OF PAYMENTS PROGRAM CERTIFICATE (OCT 2006) (DFARS 252.225-7035). (Applies only if DFARS clause 252.225-7036, BUY AMERICAN ACT – FREE TRADE AGREEMENTS – BALANCE OF PAYMENTS PROGRAM (MAR 2007) is incorporated by reference in this solicitation.) DFARS 252.225-7035 is hereby incorporated by reference in its entirety; only the certification portion is reproduced below.

(1) For all line items subject to the BUY AMERICAN ACT – FREE TRADE AGREEMENTS – BALANCE OF PAYMENTS PROGRAM clause of this solicitation, the offeror certifies that—

- (i) Each end product, except the end products listed in subparagraph (2) below, is a domestic end product; and
- (ii) Components of unknown origin are considered to have been mined, produced, or manufactured outside the United States or a qualifying country.

(2) The offeror shall identify all end products that are not domestic end products.

(i) The offeror certifies that the following supplies are qualifying country (except Australian and Canadian) end products:

_____	_____
(Line item number)	(Country of origin)

(ii) The offeror certifies that the following supplies are Free Trade Agreement country end products other than Bahrainian end products or Moroccan end products:

_____	_____
(Line item number)	(Country of origin)

(iii) The following supplies are other foreign end products including end products manufactured in the United States that do not qualify as domestic end products:

_____	_____
(Line item number)	(Country of origin (if known))

(h) CERTIFICATION REGARDING RESPONSIBILITY MATTERS (EXECUTIVE ORDER 12549).

The offeror certifies, to the best of its knowledge and belief, that--

(1) The offeror and/or any of its principals

- [] are
- [] are not

presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency, and

(2) [] have
[] have not,

within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Federal, state or local government contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating Federal criminal tax laws, or receiving stolen property;

(3) [] are
[] are not

presently indicted for, or otherwise criminally or civilly charged by a government entity with, commission of any of these offenses enumerated in paragraph (h)(2) of this provision; and

(4) [] have
[] have not

Within a three-year period preceding this offer, been notified of any delinquent Federal taxes in an amount that exceeds \$3,000 for which the liability remains unsatisfied.

(i) Taxes are considered delinquent if both of the following criteria apply:

(A) **The tax liability is finally determined.** The liability is finally determined if it has been assessed. A liability is not finally determined if there is a pending administrative or judicial challenge. In the case of a judicial challenge to the liability, the liability is not finally determined until all judicial appeal rights have been exhausted.

(B) **The taxpayer is delinquent in making payment.** A taxpayer is delinquent if the taxpayer has failed to pay the tax liability when full payment was due and required. A taxpayer is not delinquent in cases where enforced collection action is precluded.

(ii) **Examples.**

(A) The taxpayer has received a statutory notice of deficiency, under I.R.C. Sec. 6212, which entitles the taxpayer to seek Tax Court review of a proposed tax deficiency. This is not a delinquent tax because it is not a final tax liability. Should the taxpayer seek Tax Court review, this will not be a final tax liability until the taxpayer has exercised all judicial appeal rights.

(B) The IRS has filed a notice of Federal tax lien with respect to an assessed tax liability, and the taxpayer has been issued a notice under I.R.C. Sec. 6320 entitling the taxpayer to request a hearing with the IRS Office of Appeals contesting the lien filing, and to further appeal to the Tax Court if the IRS determines to sustain the lien filing. In the course of the hearing, the taxpayer is entitled to contest the underlying tax liability because the taxpayer has had no prior opportunity to contest the liability. This is not a delinquent tax because it is not a final tax liability. Should the taxpayer seek Tax Court review, this will not be a final tax liability until the taxpayer has exercised all judicial appeal rights.

(C) The taxpayer has entered into an installment agreement pursuant to I.R.C. Sec. 6159. The taxpayer is making timely payments and is in full compliance with the agreement terms. The taxpayer is not delinquent because the taxpayer is not currently required to make full payment.

(D) The taxpayer has filed for bankruptcy protection. The taxpayer is not delinquent because enforced collection action is stayed under 11 U.S.C. 362 (the Bankruptcy Code).

(i) CERTIFICATION REGARDING KNOWLEDGE OF CHILD LABOR FOR LISTED END PRODUCTS (EXECUTIVE ORDER 13126). [The Contracting Officer must list in paragraph (i)(1) any end products being acquired under this solicitation that are included in the List of Products Requiring Contractor Certification as to Forced or Indentured Child Labor, unless excluded at 22.1503(b).]

(1) List End Product.

(Insert end product)	(Insert country of origin)
(Insert end product)	(Insert country of origin)
(Insert end product)	(Insert country of origin)
(Insert end product)	(Insert country of origin)
(Insert end product)	(Insert country of origin)

(2) CERTIFICATION. [If the Contracting Officer has identified end products and countries of origin in paragraph (i)(1) of this provision, then the offeror must certify to either (i)(2)(i) or (i)(2)(ii) by checking the appropriate block.]

(i) The offeror will not supply an end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product.

(ii) The offeror may supply an end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product. The offeror certifies that is had made a good faith effort to determine

whether forced or indentured child labor was used to mine, produce, or manufacture any such end product furnished under this contract. On the basis of those efforts, the offeror certifies that it is not aware of any such use of child labor.

(j) **PLACE OF MANUFACTURE.** (Does not apply unless the solicitation is predominantly for the acquisition of manufactured end products.) For statistical purposes only, the offeror shall indicate whether the place of manufacture of the end products it expects to provide in response to this solicitation is predominantly--

(1) In the United States (Check this box if the total anticipated price of offered end products manufactured in the United States exceeds the total anticipated price of offered end products manufactured outside the United States); or

(2) Outside the United States.

(k) **CERTIFICATES REGARDING EXEMPTIONS FROM THE APPLICATION OF THE SERVICE CONTRACT ACT.** (Certification by the offeror as to its compliance with respect to the contract also constitutes its certification as to compliance by its subcontractor if it subcontracts out the exempt services.) [The Contracting Officer is to check a box to indicate if paragraph (k)(1) or (k)(2) applies.]

(1) Maintenance, calibration, or repair of certain equipment as described in FAR 22.1003-4(c)(1). The offeror

does

does not

certify that--

(i) The items of equipment to be serviced under this contract are used regularly for other than Governmental purposes and are sold or traded by the offeror in substantial quantities to the general public in the course of normal business operations;

(ii) The services will be furnished at prices which are, or are based on, established catalog or market prices (see FAR 22.1003-4(c)(2)(ii)) for the maintenance, calibration, or repair of such equipment; and

(iii) The compensation (wage and fringe benefits) plan for all service employees performing work under the contract will be the same as that used for these employees and equivalent employees servicing the same equipment of commercial customers.

(2) Certain services as described in FAR 22.1003-4(d)(1). The offeror

does

does not

certify that--

(i) The services under the contract are offered and sold regularly to non-Governmental customers, and are provided by the offeror (or subcontractor in the case of an exempt subcontract) to the general public in substantial quantities in the course of normal business operations;

(ii) The contract services will be furnished at prices that are, or are based on, established catalog or market prices (see FAR 22.1003-4(d)(2)(iii));

(iii) Each service employee who will perform the services under the contract will spend only a small portion of his or her time (a monthly average of less than 20 percent of the available hours on an annualized basis, or less than 20 percent of available hours during the contract period if the contract period is less than a month) servicing the Government contract; and

(iv) The compensation (wage and fringe benefits) plan for all service employees performing work under the contract is the same as that used for those employees and equivalent employees servicing commercial customers.

(3) If paragraph (k)(1) or (k)(2) of this provision applies--

(i) If the offeror does not certify to the conditions in paragraph (k)(1) or (k)(2) and the Contracting Officer did not attach a Service Contract Act wage determination to the solicitation, the offeror shall notify the Contracting Officer as soon as possible; and

(ii) The Contracting Officer may not make an award to the offeror if the offeror fails to execute the certification in paragraph (k)(1) or (k)(2) of this clause or to contact the Contracting Officer as required in paragraph (k)(3)(i) of this clause.

(l) **TAXPAYER IDENTIFICATION NUMBER (TIN) (26 U.S.C. 6109, 31 U.S.C. 7701).** (Not applicable if the offeror is required to provide this information to a central contractor registration database to be eligible for award.)

(1) All offerors must submit the information required in paragraphs (b)(3) through (b)(5) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the Internal Revenue Service (IRS).

(2) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(3) **TAXPAYER IDENTIFICATION NUMBER (TIN).**

-] TIN: _____
-] TIN has been applied for.
-] TIN is not required because:

] Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.

-] Offeror is an agency or instrumentality of a foreign government;
-] Offeror is an agency or instrumentality of a Federal government;

(4) TYPE OF ORGANIZATION.

-] Sole proprietorship;
-] Partnership;
-] Corporate entity (not tax-exempt);
-] Corporate entity (tax-exempt);
-] Government entity (Federal, State, or local);
-] Foreign government;
-] International organization per 26 CFR 1.6049-4;
-] Other: _____.

(5) COMMON PARENT.

-] Offeror is not owned or controlled by a common parent.
-] Name and TIN of common parent:
 Name _____

 TIN _____

(m) **RESTRICTED BUSINESS OPERATIONS IN SUDAN.** By submission of its offer, the offeror certifies that it does not conduct any restricted business operations in Sudan.

(FAR 52.212-3/I/II)

ADDENDUM TO K1.01-10

K1.01-12 SMALL BUSINESS PROGRAM NOTICE (DESC MAR 1999) NOTICE.

(a) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(b) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small or small disadvantaged business concern in order to obtain a contract to be awarded under the preference programs established pursuant to sections 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

- (1) Be punished by imposition of a fine, imprisonment, or both;
- (2) Be subject to administrative remedies, including suspension and debarment; and
- (3) Be ineligible for participation in programs conducted under the authority of the Act.

(DESC 52.219-9F25)

K15 RELEASE OF UNIT PRICES (DESC MAR 2004)

The Defense Energy Support Center (DESC) will continue to release unit prices of successful offerors after the contract award pursuant to 10 U.S.C. 2305(g)(2), FAR 15.506(d)(2) and 32 CFR 286h-3. Unit prices are the bottom-line price per unit of product and may include the total contract price. They do not include any breakout of costs, such as transportation or overhead, and do not disclose the offeror's anticipated profit or any pricing factors.

(DESC 52.224-9F25)

K33.01 AUTHORIZED NEGOTIATORS (DESC APR 2007)

The offeror or quoter represents that the following persons are authorized to negotiate on its behalf with the Government in connection with this request for proposals or quotations.

NAME	TITLE	PHONE NUMBER	E-MAIL ADDRESS
------	-------	--------------	----------------

(DESC 52.215-9F28)

K45.04 FACSIMILE INVOICING (DESC JUL 1998)

(a) Submission of invoices by facsimile (FAX) is authorized when the offeror will utilize this method of invoicing at all times.

(b) Offeror shall indicate whether or not invoices will be submitted via FAX:

YES NO

(c) Invoicing by facsimile shall be in accordance with the procedures of the applicable paying office.

(d) RETURN OF INVOICES BY THE PAYING OFFICE.

(1) Invoices deemed improper in accordance with the Prompt Payment Act may be returned to the Contractor via FAX with the reason for the return clearly annotated.

(2) The offeror's/Contractor's FAX number for returning improper invoices is _____.

(DESC 52.232-9F10)

METRIC

A-A-59503B
20 October 2008
SUPERSEDING
A-A-59503A
9 November 2006

COMMERCIAL ITEM DESCRIPTION

NITROGEN, TECHNICAL

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers two types of nitrogen: liquid and gaseous. Each type of nitrogen can be obtained in two different technical grades based on nitrogen purity and oxygen content. Liquid nitrogen is used as a cooling agent for low temperature and cryogenic processes to shield temperature sensitive materials and equipment from the effects of heat. Gaseous nitrogen is used to purge or pressurize systems or provide inert atmospheres. The list of intended use includes, but is not limited to, pressurizing fuel tanks, hydraulic system accumulators, aircraft struts, rocket engine propellant systems, and carbon dioxide cylinders; purging aircraft oxygen converters; and purging and calibrating instruments. Since some systems are sensitive to oil contamination, gaseous nitrogen is divided into two classes: oil free and oil tolerant. Class 1, oil free nitrogen, is used for applications which cannot tolerate hydrocarbons, such as the purging of oxygen equipment. Class 2, oil tolerant nitrogen, is used for pressurizing oil-containing systems such as aircraft struts.

2. **CLASSIFICATION.** The nitrogen shall conform to the following types, grades, and classes:

2.1 **Type.** The type of technical nitrogen shall be as specified in the acquisition order (see 7.4(b)).

Type I - gaseous

Type II - liquid

2.2 **Grade.** The grade of technical nitrogen shall be as specified in the acquisition order (see 7.4(c)).

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: STDZNMGT@dla.mil or Defense Supply Center Richmond (DSCR), ATTN: DSCR-VEB, 8000 Jefferson Davis Highway, Richmond, VA 23297-5616.

Grade A - 99.95 percent pure nitrogen

Grade B - 99.50 percent pure nitrogen

2.3 Class. The terms “oil free” and “oil tolerant”, indicated by class 1 and class 2, replaced the older terms “water pumped” and “oil pumped”, respectively. The older terminology referenced the type of compressors, water and soap lubricated or oil lubricated, used in charging nitrogen gas into cylinders. Because of today’s different compressors or systems being used, the newer terms now refer to the type of application. When applied to nitrogen, the term “oil free” shall be used to identify applications that cannot tolerate hydrocarbon contamination. The term “oil tolerant”, when applied to nitrogen, indicates that the gas can be used in applications that can tolerate or contain hydrocarbon material. This terminology only applies to gaseous nitrogen. (see 7.5). The class of technical nitrogen shall be as specified in the acquisition order (see 7.4(d)).

Class 1 - oil free

Class 2 - oil tolerant (type I only)

3. SALIENT CHARACTERISTICS

3.1 Nitrogen purity. The amount of nitrogen in the material shall be a minimum of 99.95 percent by volume (v/v) for grade A nitrogen, or 99.50 percent v/v for grade B nitrogen. This includes trace amounts of neon, argon and helium. The purity shall be determined by one of the methods described in Compressed Gas Association (CGA) G-10.1, "Commodity Specification for Nitrogen".

3.2 Oxygen content. The amount of oxygen in the material shall have a maximum of 0.05 percent v/v for grade A nitrogen, or 0.5 percent v/v for grade B nitrogen. The oxygen content shall be determined by one of the methods described in CGA G-10.1, "Commodity Specification for Nitrogen".

3.3 Moisture content. The amount of moisture in the material shall have a maximum of 26 parts per million (ppm) for both grades A and B nitrogen. The moisture content shall be determined by one of the methods described in CGA G-10.1, "Commodity Specification for Nitrogen".

3.4 Odor. The nitrogen shall have no odor when tested in accordance with CGA G-10.1, "Commodity Specification for Nitrogen".

3.5 Total hydrocarbon content (THC). Both grades of nitrogen shall be free of oil contamination and shall have a total hydrocarbon level less than 50 ppm as methane by volume, when specified in the acquisition order (see 7.4(e)). It shall be determined by one of the methods described in CGA G-10.1 "Commodity Specification for Nitrogen".

3.6 Particulate matter. Type I nitrogen shall contain no solid particles whose maximum dimensions are greater than 50 microns when specified in the acquisition order (see 7.4(f)). It shall be determined by any acceptable commercial method used by the manufacturers of nitrogen gas. Because the major contamination is from cylinders, control of particulate matter in the user’s dispensing equipment can be assured by the installation of a 10um or better nominal filter in the service line.

4. REGULATORY REQUIREMENTS

4.1 Recovered materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS

5.1 Product conformance. The products provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance.

5.2 Market acceptability. The product offered must have been previously sold either to the government or on the commercial market.

5.2.1 Market acceptability criterion. The company must be able to show data from tests or process monitoring that demonstrates the ability of the product to meet the salient characteristics of technical grade nitrogen.

6. PACKAGING

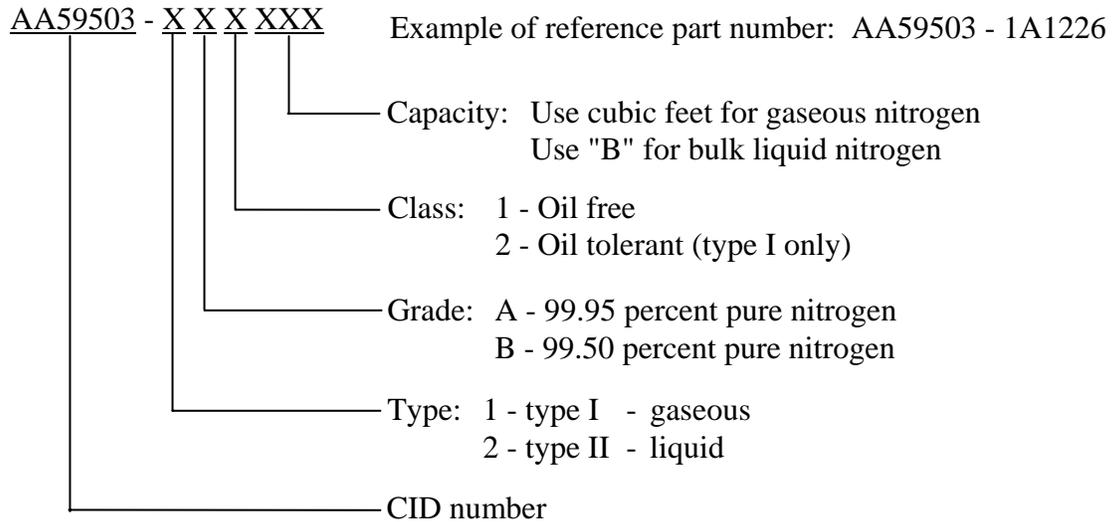
6.1 Preservation, packing, and marking. Preservation, packing, and marking shall be as specified in the acquisition order (7.4(g)).

6.2 Packaging and special markings. All government owned cylinders that have been provided for filling shall be reconditioned as necessary in accordance with MIL-STD-1411. DoD cylinders shall conform to RR-C-901, their valves to MIL-DTL-2, and the cylinders color coded in accordance with MIL-STD-101. The capacity, in cubic feet for gaseous nitrogen or "B" for bulk liquid nitrogen, shall be as specified in the acquisition order (see 7.4(h)).

6.3 Palletization. The palletization of material shall be as specified in the acquisition order (see 7.4(i)). MIL-STD-147 may be used for palletization.

7. NOTES

7.1 Part or identification number (PIN). The following PIN procedure is for government purposes and does not constitute a requirement for the contractor.



7.2 Sources of documents.

7.2.1 FAR. Copies of the FAR are available on line at <http://www.gpoaccess.gov/> from the U.S. Government Printing Office, P.O. Box 979050, St. Louis, MO 63197-9000, or by calling (866)-512-1800 (or if in the DC area call (202) 512-1800).

7.2.2 Federal specifications and standards. Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil> or from the Standardization Document order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.

7.2.3 Military standards, and handbooks. Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil> or from the Standardization Document order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.

7.2.4 CGA standards. Copies of these documents are available online at <http://www.cganet.com/> or from the Compressed Gas Association, Inc., 4221 Walney Road, 5th Floor, Chantilly, VA 20151-2923.

7.3 International standardization agreements (ISAs). Certain provisions of this CID (section 3) are subject to the following international standardization agreements:

AIR-STD-15/10, "Compressed Nitrogen Characteristics for Oil Tolerant Use (including supply pressure and hoses)",

AIR-STD-15/11, "Oil Free Compressed Nitrogen Characteristics, (including supply pressure and hoses)",

AIR-STD-15/12, "Liquid Nitrogen Characteristics",

NATO STANAG 3624, "Characteristics of Oil-free Compressed Nitrogen, Supply Pressure and Hoses".

When amendment, revision, or cancellation of this specification is proposed which will modify the international agreement concerned, the preparing activity will take appropriate action through international standardization channels, including departmental standardization offices, to change the agreement or make other appropriate accommodations. Copies of these ISAs are available online at <http://assist.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil> or from the Standardization Document order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.

7.4 Ordering data. The acquisition order should specify the following:

- a. CID document number, revision, and CID PIN (see 7.1)
- b. Type of technical nitrogen (see 2.1).
- c. Grade of technical nitrogen (see 2.2).
- d. Class of technical nitrogen (see 2.3).
- e. Total hydrocarbon content (THC) testing required (see 3.5).
- f. Particle matter testing required (see 3.6).
- g. Preservation, packing, and marking requirements (see 6.1).
- h. Capacity, in cubic ft for gaseous nitrogen or “B” for bulk liquid nitrogen (see 6.2).
- i. Palletization requirements (see 6.3).

7.5 Intended use. Oil tolerant nitrogen gas, class 2 is not to be used to purge or pressurize oxygen or air for human respiration systems. It shall only be used with oil-containing systems or systems that can tolerate hydrocarbon contamination, like pressuring aircraft struts. Contamination of an oxygen system with an oil-tolerant gas could result in a fire or explosion with loss of life or loss of a complete weapons system. This CID is not suitable for procurement of nitrogen for use in reactor plant, steam plant, and shipyard applications. For these applications see CID A-A-59155.

7.6 National stock number (NSNs). The following is a list of NSNs assigned that correspond to this CID. The list may not be indicative of all possible NSNs associated with the CID.

TABLE I. Technical nitrogen NSNs.

NSN	Type	Grade	Class	Cylinder capacity (cubic ft.(CF))
6830-00-134-3709	I	A	1	12
6830-00-192-9067	I	B	1	113
6830-00-656-1596	I	A	1	226
6830-01-028-9402	I	B	1	226
6830-01-040-3847	I	B	1	0.32
6830-01-250-2888	I	B	2	226
6830-01-265-4068	I	B	1	336
6830-01-283-8777	I	B	2	336
6830-01-386-4846	I	A	1	38
6830-01-431-0639	I	B	1	494
6830-01-441-0798	I	B	1	336
6830-01-441-0875	I	B	1	226
6830-01-441-0903	I	A	1	187
6830-01-441-2983	I	A	1	226
6830-01-508-3010	I	B	1	336
6830-01-508-3035	I	A	1	226
6830-01-508-3041	I	B	1	226
6830-01-512-8735	I	A	1	226
6830-01-512-8792	I	B	1	113
6830-01-512-8809	I	B	1	226
6830-01-512-8894	I	B	1	276
6830-01-512-8897	I	B	1	336
6830-01-512-8918	I	B	1	494
6830-01-512-8929	I	B	2	336

7.7 Valve outlet connections.

7.7.1 Cautionary note. The valve outlet connection for oil tolerant nitrogen should be different from oil free valve outlet connections to prevent the erroneous use of oil tolerant nitrogen cylinders for oil free applications. A reverse flow typically occurs during an oil tolerant operation (pressurizing oil-containing systems, e.g. aircraft struts). As a result, cylinders are contaminated with oil and can not be used for oil free applications.

7.7.2 Valve connections. The applicable standard for valve connections is CGA V-1, "Standard for Compressed Gas Cylinder Valve Outlet and Inlet Connections". Note that valve connection 590 is a limited standard for nitrogen per CGA V-1. The connections listed in table II apply.

TABLE II. Valve connection numbers.

Pressure (psi)	<3,000	>3,000
Class 1	580	680
Class 2	590	621

7.8 Subject term (key word) listing.

compressed gas
cylinder
valves

MILITARY INTERESTS:

Custodians:

Army - AV
Navy - SH
Air Force - 68

Review activities:

Army - AR, EA, MD1
Navy - AS, MC, OS, YD
DoD - DS

CIVIL AGENCY
COORDINATING ACTIVITY:

GSA - FAS

Preparing activity:

DLA - GS3

(Project No. 6830-2009-001)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST database at <http://assist.daps.dla.mil>.

METRIC

MIL-PRF-25508G
21 November 2006

SUPERSEDING
MIL-PRF-25508F
19 October 1995

PERFORMANCE SPECIFICATION

PROPELLANT, OXYGEN

This specification is approved for use by all Departments and Agencies of the Department of Defense.

Comments, suggestions, or questions on this document should be addressed to DET 3, WR-ALC/AFTT, 2430 C Street, Bldg 70, Area B, Wright-Patterson AFB OH 45433-7632 or e-mailed to AFPET.AFTT@wpafb.af.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil>.

AMSC N/A

FSC 9135

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MIL-PRF-25508G

1. SCOPE

1.1 Scope. This specification covers the requirements for three grades and two types of oxygen.

1.2 Classification. The oxygen shall be of the following types and grades as specified (see 6.2).

1.2.1 Types. The types of oxygen are as follows:

Type I – Gaseous

Type II – Liquid

1.2.2 Grades. The grades of oxygen are as follows:

Grade A – 99.6 percent pure, standard

Grade B – 99.5 percent pure, reduced standard

Grade F – 99.990 percent pure, fuel cell and breathing

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following standard forms a part of this document to the extent specified herein. Unless otherwise specified, the issues of this document are those cited in the solicitation or contract (see 6.2).

COMMERCIAL ITEM DESCRIPTION

A-A-58092 Tape, Antiseize, Polytetrafluorethylene

(Copies of this document is available online at <http://assist.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil> or by mail from the Standardization Document Order Desk, 700 Robbins Avenue, Bldg 4D, Philadelphia PA 19111-5094.)

2.3 Non-government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

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ASTM INTERNATIONAL (ASTM)

ASTM E 29	Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
ASTM F 307	Standard Practice for Sampling Pressurized Gas for Gas Analysis
ASTM F 310	Standard Practice for Sampling Cryogenic Aerospace Fluids

(Copies of these documents are available online at <http://www.astm.org> or by mail from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA, 19428-2959)

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-4.3	Commodity Specification for Oxygen
CGA P-15	Filling of Industrial and Medical Nonflammable Compressed Gas Cylinders

(Copies of these documents are available online at <http://www.cganet.com> or by mail from the Compressed Gas Association, Inc., 4221 Walney Road, 5th floor, Chantilly, VA 20151-2923)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Grade requirements. The purity and impurity concentrations as applicable to each grade of oxygen shall conform to the limits of Table I when tested in accordance with the applicable test method also specified in Table I. Other limits and tests may be specified by the procuring activity (see 6.2).

3.2 Limiting values. The following applies to all specified limits in this specification. For purposes of determining conformance with these requirements, an observed value or a calculated value shall be rounded off "to the nearest unit" in the last right-hand digit used in expressing the specification limit according to the rounding-off method of ASTM E 29 Standard Practice for using Significant Digits in Test Data to Determine Conformance with Specifications.

3.3 Filter. A filter with no more than a 10-micrometer nominal and 40-micrometer absolute rating shall be installed between the manufacturer's plant system and the manifold used to fill the gas or liquid containers for delivery.

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TABLE I. Grade limits for oxygen.

	Grade			Test Method
	A	B	F	
Purity, percent by volume, min	99.6	99.5	99.990	4.4.1
Impurities, ppm by volume, max	4000	5000	100	4.4.1
Total hydrocarbons as methane	50	67.7	20	4.4.2
Water	3	26.3	3	4.4.2
Methane	Note a	Note a	16	4.4.2
Ethane	Note a	Note a	2	4.4.2
Propane and higher hydrocarbons as propane	Note a	Note a	1	4.4.2
Nitrous oxide	Note a	Note a	1	4.4.2
Halogenated hydrocarbons	Note a	Note a	1	4.4.2
Carbon monoxide and carbon dioxide	Note a	Note a	1	4.4.2
Other (N, Ar, Kr, etc.)	Note a	Note a	75	4.4.2
Odor	Note a	Note a	None	4.4.2
Particulate ^b , mg/L, max	1.0	1.0	1.0	4.4.3
<p>a. No limit for this grade. b. Applies to Type II product only. The particulate test requirement and limit may be deleted by the procuring activity (see 6.2).</p>				

3.4 Filled containers (Type I only).

3.4.1 Filling Pressure. The container filling pressure shall not differ from that required by the contract by more than 1.0% at 70°F when tested as specified in 4.5.1. In no case shall the filling pressure exceed the rated service pressure of the container. Pressure-Temperature Filling Charts in CGA P-15 may be used.

3.4.2 Leakage. Cylinders shall not leak when tested according to 4.5.2.

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4. VERIFICATION

4.1 Points of inspection (see 6.2). Unless otherwise specified, acceptance tests shall be conducted at the site of filling prior to shipment or departure.

4.2 Conformance inspection. Quality conformance tests shall consist of the following:

- a. Individual tests (Type I only) 4.2.1
- b. Sampling tests 4.2.2

4.2.1 Individual tests (Type I only). Each container (cylinder or tube) shall be subjected to the following tests as described under 4.5.

- a. Filling pressure 4.5.1
- b. Leakage 4.5.2

4.2.2 Sampling test. The number of oxygen containers shall be selected in accordance with Table II and subjected to the tests required by Table I.

Table II. Sampling for test.

Number of containers in lot	Number of containers to be sampled
1	1
2 – 40	2
41 – 70	3
71 – over	4

4.2.3 Lot and Container Definitions

4.2.3.1 Lot: A lot shall be defined as one of the following

- a. All of the oxygen supplied in one or more containers filled from one manifold at the same time.
- b. All of the oxygen filled from a single storage tank that is homogenous at the time of withdrawal and is not added to while being withdrawn. After each addition to the storage tank, the contents shall constitute a separate lot.

4.2.3.2 Container: A container is defined as a shipping conveyance consisting of one cylinder or tube, or multiple cylinders or tubes that are interconnected by a single manifold that equalizes the pressure across all the cylinders or tubes to form one unit.

4.2.4 Sample. Each sample shall be of sufficient size to conduct all the quality conformance tests as specified herein. Unless otherwise specified, the quality conformance tests shall be performed on each required sample (see 6.2). When required, an equivalent sample shall be forwarded to a laboratory designated by the procuring activity for testing.

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4.2.4.1 Sampling methods. All apparatus used shall be made of suitable materials. Each sample taken for analysis shall be representative of the entire contents of the container being sampled. Unless otherwise specified in the acquisition requirements (see 6.2), sampling may be accomplished by the following methods.

a. Type I, gaseous oxygen may be sampled in accordance with ASTM F 307, for Type II, liquid oxygen may be sampled in accordance with ASTM F 310. It is critical that the outlet of the sampling port and the other equipment used in this process meet oxygen system cleanliness standards. Use an oxygen compatible cleaning solvent in accordance with local procedures for oxygen cleanliness.

b. By connecting the shipping container being sampled directly to the analytical equipment using suitable pressure regulation as required. It is critical that the outlet of the sampling port and the other equipment used in this process meet oxygen system cleanliness standards. Use an oxygen compatible cleaning solvent in accordance with local procedures for oxygen cleanliness.

4.2.5 Non-bulk Containers. Non bulk containers are defined as containers with a water capacity of 400 liters, or less. The number of non-bulk containers Type I (gaseous) or Type II (liquid) oxygen will be in accordance with Table II. Containers to be sampled may be selected at random.

4.2.6 Bulk Containers. Bulk containers are defined as having a water capacity in excess of 400 liters. Each bulk container filled with Type I (gaseous) and Type II (liquid) oxygen constitutes a lot and shall be sampled.

4.2.6.1 Continuous service. (see 6.4.1) Unless otherwise specified by the procuring activity, the following sample option for oxygen shall be used for storage and transport tanks engaged in continuous oxygen service (see 6.2). Contractor shall sample the contents of each transport tank engaged in continuous oxygen service at least once every seven days at uniform intervals of time. Samples shall be taken from the filled transport tanks. Contractor shall sample the contents of each transport tank when entering continuous service and when the transport tank has remained empty for a period greater than 24 hours. When empty, all ports and vents shall remain closed to the atmosphere. While in continuous service, compliance with quality conformance tests specified herein shall be determined by sampling the filling point storage tank after each addition or, in case of continuous production, at established intervals not less frequent than once every 24 hours. When a storage tank is being filled during a change of duty shift, sampling shall be performed after filling.

4.3 Rejection. When any sample tested in accordance with 4.4 fails to conform to the requirements specified herein, the entire lot represented by the sample shall be rejected.

4.4 Analytical procedures. Unless otherwise specified, samples shall be analyzed according to the procedures described below (see 6.2). Calibration gas standards may be required to calibrate (zero and span) analytical instruments used to determine the purity and impurity contents of the oxygen. The accuracy of the calibration gas standards is to be traceable to the National Institute of Standards and Technology (NIST). A suggested procedure for infrared analysis is provided in 6.7.

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4.4.1 Purity. Methods shall be selected from CGA G-4.3 except for grade F. The purity of grade F shall be determined by difference as follows:

$$\%O_2 = 100 - 10^4 \sum l$$

where $\sum l$ equals the sum of the water content, total hydrocarbons, nitrous oxide, carbon dioxide, carbon monoxide, and inert gases in ppm by volume.

4.4.2 Gaseous impurities. Methods shall be selected from those of CGA G-4.3.

4.4.3 Particulate content. A filter holder assembly (Pall Life Sciences part No. 2220) or equivalent, modified as shown in Figure 1, shall be attached to the withdrawal line of the vessel to be utilized to fill the tanks. A preweighed filter paper (47 mm glass fiber paper, type A/E or equivalent) shall be placed on top of another filter of the same kind. The filters shall then be placed on the porous filter support, which, in turn, shall be placed in the filter holder as shown in Figure 1. The male threads of the filter holder shall be wrapped with thin, nonadhesive-backed polytetrafluorethylene tape A-A-58092, or technical equivalent, to prevent galling of the threads. The holder shall be tightened by hand as tight as possible to prevent bypassing of the filter element. The discharge liquid from the filter housing shall be collected in a clean, uninsulated, ambient temperature vessel marked to indicate when 5 liters of liquid have been collected. The liquid flow shall be terminated when 5 liters of liquid have been collected. The filter holder shall be removed from the line and permitted to reach ambient temperature. The warmup to ambient temperature may be expedited by use of an oven or other heat source. Care shall be exercised to ensure that any airflow which enters the unit will be directed through the inlet of the assembly to prevent displacing and particles from the surface of the filter. Upon warmup, the other side of the holder shall be wiped with a clean cloth and the holder then disassembled. The filter paper shall be closely inspected. The test shall be repeated if evidence of either (a) the filter not being securely clamped by uniform depression of its edge; (b) the filter having been cut by the holder; or (c) when dirt particles are detected in the clamped area indicating bypassing had been encountered. The test shall also be repeated when either the bottom filter shows any discoloration or when leakage of liquid from the filter holder is detected. Upon completion of a valid test the filter shall be removed from the housing and weighed to the nearest 0.1 mg.

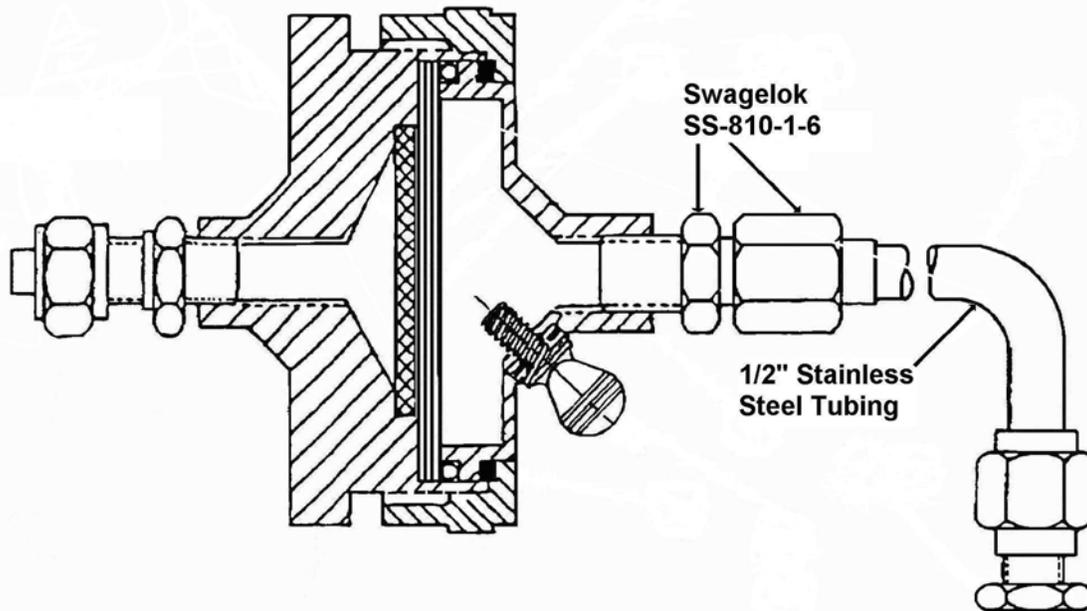


Figure 1. Filter Cryogenic Liquids

4.5 Containers of Type I oxygen.

4.5.1 Filling pressure. Containers shall be tested for proper filling pressure by attaching a calibrated Bourdon-tube gauge or equivalent to the valve outlet and by attaching either a thermocouple or thermometer to the container wall. The gauge shall have scale divisions not greater than 100 kPa (15 psi). If a thermometer is used, tape or putty shall be applied to the bulb to protect it from extraneous temperatures. Putty shall not be applied between the bulb and the container wall. The thermometer shall have scale divisions not greater than 1°C (2°F). The containers shall be stabilized to ambient temperature. The valve shall then be opened and the internal pressure observed on the gauge.

4.5.2 Leakage. Each Type I oxygen container shall be tested for leaks at the neck threads, stem packing, and safety device of the valve with leak-detection fluid. Valve seat leakage shall be tested by means of a tube from the valve outlet to a container of liquid.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

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6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The propellant covered by this specification is intended for use as follows.

- a. Grade A, type I – Purging and pressurization of propellant systems and rocket engines.
- b. Grade A, type II – Oxidizer.
- c. Grade B, type II - Oxidizer.
- d. Grade F, types I and II – Fuel cell grade that may be used for crew breathing in subsystems utilizing a common storage for both functions.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Type and grade of oxygen required (see 1.2).
- c. If required, the specific issue of individual documents referenced (see 2.2.1).
- d. When other limits or tests are required (see 3.1).
- e. When the particulate test is not required (see Table I).
- f. When a variation in the points of inspection is required (see 4.1).
- g. When a variation of the quality conformance tests to be performed on each sample is required (see 4.2.4).
- h. When a variation to the sampling method is required (see 4.2.4.2).
- i. When a variation to the continuous service option is required (see 4.2.6.1).
- j. When a variation to the 400 liter criteria for sampling is required (see 4.2.7).
- k. When a variation of the analytical procedures is required (see 4.4).
- l. Packaging requirements (see 5.1 and 6.3).

6.3 Packaging requirements. Guidance for cylinders may be found in the following documents.

- a. RR-C-901 Cylinders, Compressed Gas: Seamless Shatterproof, High Pressure DOT 3AA Steel, and 3AL Aluminum
- b. MIL-DTL-2/39 Valve, Cylinder, Gas: Oxygen Outlet 540
- c. MIL-STD-101 Color Code for Pipelines and for Compressed Gas Cylinders

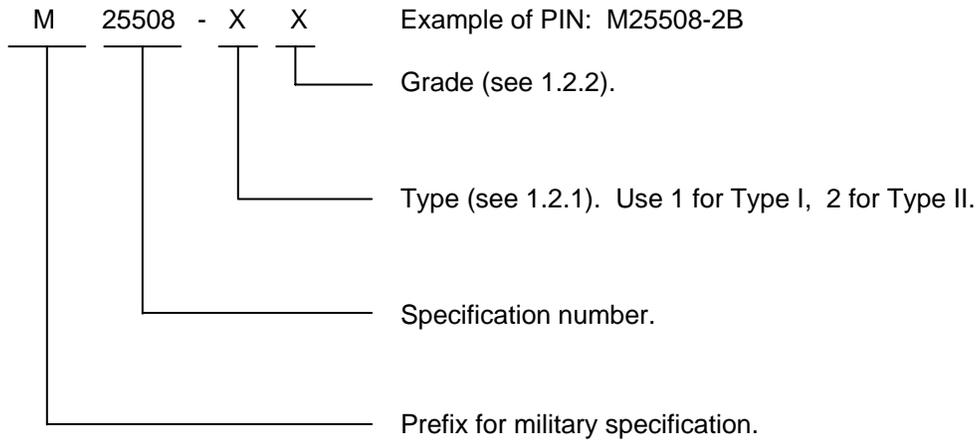
MIL-PRF-25508G

- d. MIL-STD-1411 Inspection and Maintenance of Compressed Gas Cylinders
- e. 49 CFR 171 – 199 Code of Federal Regulations

6.4 Definition.

6.4.1 Continuous service. Continuous service applies to continuous deliveries under Government contract of oxygen complying with the quality conformance tests specified herein.

6.5 Part or identifying number (PIN). The PIN's to be used for oxygen acquired to this specification are created as follows:



6.6 Subject term (key word) listing.

- Aerospace
- Breathing
- Cryogenic
- Cylinders
- Fuel cell
- Space vehicle

6.7 Infrared analysis. Procedures for calibration and analysis may be found in MIL-STD-1564, Procedure for Calibration and Analysis of Trace Contaminants in Aviator's Breathing Oxygen by Infrared Spectroscopy.

6.8 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

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Custodians:

Army – MI
Navy – AS
Air Force – 68
DLA – PS

Preparing activity:

Air Force – 68
(Project 9135-2005-007)

Review activities:

Air Force – 19
DLIS – LS

Civil Agencies:

NASA

Note: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information using the ASSIST Online database at <http://assist.daps.dla.mil>.

METRIC

MIL-PRF-27415B
08 February 2007

SUPERSEDING
MIL-PRF-27415A
11 December 1997

PERFORMANCE SPECIFICATION

PROPELLANT PRESSURIZING AGENT, ARGON

This specification is approved for use by all Departments and Agencies of the Department of Defense.

Comments, suggestions, or questions on this document should be addressed to HQ-AFPET/AFTT, 2430 C Street, Bldg 70, Area B, Wright-Patterson AFB, OH, 45433-7632 or e-mailed to AFPET.AFTT@wpafb.af.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil>.

AMSC N/A

FSC 9135

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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1. SCOPE

1.1 Scope. This specification covers the requirements for two grades and two types of argon.

1.2 Classification. The argon will be of the following types and grades as specified (see 6.2):

1.2.1 Types. The types of argon are as follows:

Type I - Gaseous

Type II - Liquid

1.2.2 Grades. The grades of argon are as follows:

Grade A - 99.998 percent purity

Grade B - 99.985 percent purity

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Other Government documents, drawings, and publications. The following Government document forms a part of this document to the extent specified herein. Unless otherwise specified, the issue of this document is the one cited in the solicitation or contract (see 6.2).

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) Formerly the National Bureau of Standards (NBS)

Technical Publication NSRDS-NBS 27	Thermodynamic Properties of Argon from the Triple Point to 300K at Pressures to 1000 Atmospheres
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(Copies of this document are available online at <http://www.nist.gov> or the National Institute of Standards and Technology (NIST), 100 Bureau Drive, Stop 1070, Gaithersburg, MD 20899-1070.)

2.3 Non-government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

ASTM INTERNATIONAL

ASTM E 29	Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
ASTM F 307	Standard Practice for Sampling Pressurized Gas for Gas Analysis
ASTM F 310	Standard Practice for Sampling Cryogenic Aerospace Fluids

(Copies of these documents are available online at <http://www.astm.org> or the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken PA 19428-2959)

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COMPRESSED GAS ASSOCIATION (CGA)

CGA G-11.1

Commodity Specification for Argon

CGA P-15

Filling of Industrial and Medical Nonflammable Compressed Gas Cylinders

(Copies of these documents are available online at <http://www.cganet.com> or the Compressed Gas Association, Inc., 4221 Walney Road, 5th floor, Chantilly, VA 20151-2923)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Composition. The composition of the argon shall conform to the limits in Table I when tested in accordance with the applicable test methods (see 4.4). Other limits and tests may be specified by the procuring activity (see 6.2).

3.2 Limiting values. The following applies to all specified limits in this specification: For purposes of determining conformance with these requirements, an observed value or a calculated value shall be rounded off "to the nearest unit" in the last right-hand digit used in expressing the specification limit according to the rounding-off method of ASTM E 29, Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications.

3.3 Filter. A filter with a rating of at least 10-micrometer nominal and 40-micrometer absolute or better shall be installed between the manufacturer's plant system and the manifold used to fill the gas or liquid containers for delivery.

3.4 Filled containers (Type I only).

3.4.1 Pressure. The container filling pressure shall not differ from that required by the contract by more than 1% at 70°F when tested as specified in 4.5.1. In no case shall the filling pressure exceed the rated service pressure of the container. Gas cylinders shall be filled to within 99 to 100 percent of their rated service pressure when tested as specified in 4.5.1. Pressure-Temperature Filling Charts in CGA P-15 or the pressure-temperature table in Section 6 may be used.

3.4.2 Leakage. Cylinders shall not leak when tested according to 4.5.2.

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TABLE I Composition

Composition	Grades		Test Paragraph
	A	B	
Assay (purity), Argon (Ar) percent by volume, min	99.998	99.985	4.4.1
Water, ppm by volume, max	3.5	23	4.4.2
Dewpoint, °C (°F)	-68 (-90)	-54 (-65)	4.4.2
Oxygen, ppm by volume, max	2	50	4.4.2
Hydrogen, ppm by volume, max	2	50	4.4.2
Nitrogen, ppm by volume, max	10	50	4.4.2
Total hydrocarbons (as methane), ppm by volume, max	0.5	Not specified	4.4.2
Carbon dioxide, ppm by volume, max	0.5	Not specified	4.4.2

4. VERIFICATION

4.1 Points of inspection (see 6.2).

4.1.1 Containers. Unless otherwise specified, acceptance tests shall be conducted at the site of filling prior to shipment or departure.

4.2 Conformance inspection. Quality conformance tests shall consist of the following:

a. Individual tests (Type I only)..... 4.2.1

b. Sampling tests 4.2.2

4.2.1 Individual tests (Type I only). Each container shall be subjected to the following tests as described under 4.5:

a. Filling pressure 4.5.1

b. Leakage 4.5.2

4.2.2 Sampling test. The number of argon containers shall be selected in accordance with Table II and subjected to the tests required by Table I.

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TABLE II. Sampling for test.

Number of containers in lot	Number of containers to be sampled
1	1
2 – 40	2
41 – 70	3
71 – over	4

4.2.3 Lot definitions.

4.2.3.1 Type I. A lot is defined as all of the argon supplied in one or more container(s) filled from a single manifold at the same time.

4.2.3.2 Type II. Each filled container shall constitute a lot.

4.2.3.3 Container Assemblies. A shipping conveyance consisting of multiple cylinders or tubes that are interconnected by a single manifold that equalizes the pressure across all cylinders/tubes to form a single unit is considered a single container.

4.2.4 Sample. Each sample shall be of sufficient size to conduct all the quality conformance tests as specified herein. Unless otherwise specified, the quality conformance tests shall be performed on each required sample (see 6.2). When required, an equivalent sample shall be forwarded to a laboratory designated by the procuring activity for subjection to the quality conformance tests specified herein.

4.2.4.1 Sampling methods. Each sample taken for analysis shall be representative of the entire contents of the container being sampled. All equipment used shall be made of suitable materials. Unless otherwise specified in the acquisition requirements (see 6.2), sampling shall be accomplished by one of the following methods.

a. Type I, gaseous argon may be sampled in accordance with ASTM F 307 and Type II, liquid argon may be sampled in accordance with ASTM F 310. It is critical that the sampling port be clean and free of contaminants.

b. Connect the shipping container being sampled directly to the analytical equipment using suitable pressure regulation as required to prevent over-pressurization of the equipment.

4.2.5 Non-Bulk Containers. The number of containers filled with Type I (gaseous) argon selected for sampling from each lot shall be in accordance with Table II. The first and last containers to be filled within a given lot are typically sampled. Other samples may be selected at random. Every container filled with Type II (liquid) argon shall constitute a lot and will be sampled.

4.2.6 Bulk transports. For bulk shipments, each container filled with Type I (gaseous) or Type II (liquid) argon constitute a lot and shall be sampled.

4.3 Rejection. When any sample tested in accordance with 4.4 fails to conform to the requirements specified herein, the entire lot represented by the sample shall be rejected.

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4.4 Analytical procedures. Unless otherwise specified (see 6.2), samples shall be analyzed according to the procedures described in 4.4.2. Calibration gas standards may be required to calibrate (zero and span) analytical instruments used to determine the purity and impurity contents of the argon. The accuracy of the calibration gas standards is to be traceable to the National Institute of Standards and Technology (NIST).

4.4.1 Argon content. The argon content in percent shall be found by determining the aggregate impurities by the methods described in 4.4.2. The aggregate impurities shall include all the impurities listed in Table I, regardless of Grade. The percent argon is the value obtained when the aggregate impurities, expressed as volume percent, are subtracted from 100 percent.

4.4.2 Impurities. The analytical procedures described in CGA G-11.1 shall be used to determine the concentrations of those impurities listed in Table I.

4.5 Filled container tests (Type I only).

4.5.1 Filling pressure. Containers shall be tested for proper filling pressure by attaching a calibrated Bourdon-tube or equivalent gauge to the valve outlet and by attaching either a thermocouple or thermometer to the container wall. The gauge shall have scale divisions not greater than 100 kPa (15 psi) for service pressures of less than or equal to 25 MPa gauge (3626 psig). For service pressures greater than 25 MPa gauge (3626 psig), a maximum of 700 kPa (100 psi) per scale division is acceptable. If a thermometer is used, tape or putty shall be applied to the bulb to protect it from extraneous temperatures. Putty shall not be applied between the bulb and the container wall. The thermometer shall not have scale divisions greater than 1°C (2°F). The containers shall be stabilized to ambient temperature. Then the valve shall be opened and the internal pressure observed on the gauge.

4.5.2 Leakage. Each Type I argon container shall be tested for leaks at the neck threads, stem packing, and safety device of the valve with leak-detection fluid. Valve seat leakage shall be tested after filling has been completed by connecting a hose to the valve outlet and placing the other end of the hose under the surface of a liquid.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The argon is used as a welding, purging, pressurizing, atmospheric inerting agent, or missile checkout gas in various systems.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Type and grade of argon required (see 1.2).

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- c. If required, the specific issue of individual documents referenced (see 2.2.1).
- d. When other limits or tests are required (see 3.1).
- e. When a variation in the points of inspection is required (see 4.1).
- f. When a variation of the quality conformance tests to be performed on a sample is required (see 4.2.4).
- g. When a variation to the sampling method is required (see 4.2.4.1).
- h. When a variation of the analytical procedures is required (see 4.4).
- i. Packaging requirements (see 5.1).

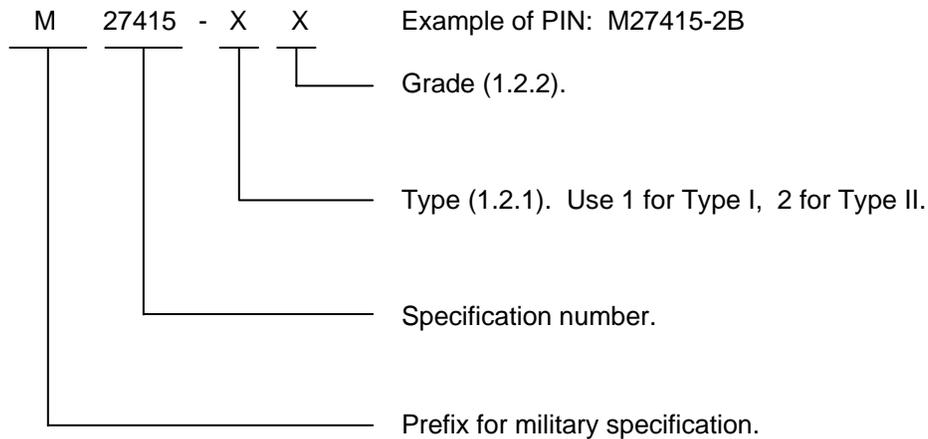
6.3 Packaging requirements. Guidance for cylinders may be found in the following documents:

- a. MIL-DTL-2/11 Valve, Cylinder, Gas: Argon, Helium, Nitrogen, Neon, and Xenon, (Inert-Oil Free), Outlet 580
- b. MIL-DTL-2/51 Valve, Cylinder, Gas: Argon, Helium, Nitrogen, Neon, Xenon, and Krypton (Inert-Oil Free), Outlet 677
- c. MIL-STD-101 Color Code for Pipelines and for Compressed Gas Cylinders
- d. MIL-STD-1411 Inspection and Maintenance of Compressed Gas Cylinders
- e. 49 CFR 171 – 199 Code of Federal Regulations

6.4 Field use limits. The requirements established by this specification are applicable for procurement purposes only and are valid solely as utilized by vendor and the procuring activity. They are not intended for each application.

6.5 Particulate contamination. Long term storage of filled argon containers may allow particulate contaminants to accumulate. For this reason, the installation of in-line filters between the containers and system if applicable, is recommended prior to use. Filters with a rating of five micrometer nominal and 25 micrometer absolute rating or better for Type I (gaseous) and with a 10 micrometer nominal and 40 micrometer absolute rating or better for Type II (liquid) are suggested.

6.6 Part or identifying number. The PINs to be used for argon acquired to this specification are created as follows:



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6.7 Subject term (key word) listing.

Aerospace
 Cylinders
 Argon
 Propellant
 Missile checkout
 Welding gas
 Inerting agent

6.8 International standardization agreement implementation. This specification serves as the implementing document for STANAG 7127 GGS. MIL-PRF-27415, Grade A, argon, meets the requirements of the argon specified in STANAG 7127. When the amendment, revision, or cancellation of this specification is proposed, the preparing activity must coordinate the action with the U.S. National Point of Contact for the international standardization agreement, as identified in the ASSIST database at <http://assist.daps.dla.mil>.

6.9 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

**TABLE III. Pressure temperature conversion chart
 container service pressure – 6000 psig. ¹**

TEMP °F	PSIG	TEMP °F	PSIG	TEMP °F	PSIG
0	4567	44	5469	88	6366
2	4608	46	5510	90	6407
4	4649	48	5551	92	6448
6	4690	50	5592	94	6488
8	4731	52	5633	96	6529
10	4772	54	5674	98	6570
12	4813	56	5714	100	6610
14	4854	58	5755	102	6651
16	4895	60	5796	104	6691
18	4936	62	5837	106	6732
20	4978	64	5878	108	6772
22	5019	66	5918	110	6813
24	5060	68	5959	112	6853
26	5101	70	6000	114	6894
28	5142	72	6041	116	6935
30	5183	74	6081	118	6975
32	5224	76	6122	120	7016
34	5265	78	6163	122	7056
36	5305	80	6204	124	7096
38	5346	82	6244	126	7137
40	5387	84	6285	128	7177
42	5428	86	6326	130	7218

Note 1: Calculated from the equation of state for argon of A. L. Gosman, et al. See NBS Technical Publication NSDRS-NBS 27 (Available through NIST).

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CONCLUDING MATERIAL

Custodians:

Army – MI
Navy – AS
Air Force – 68
DLA – PS

Preparing activity:

Air Force – 68
(Project 9135-2005-005)

Review activities:

Air Force – 19

Note: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information using the ASSIST Online database at <http://assist.daps.dla.mil>.

METRIC

MIL-PRF-27401F

10 January 2008

SUPERSEDING

MIL-PRF-27401E

23 February 2007

PERFORMANCE SPECIFICATION

PROPELLANT PRESSURIZING AGENT, NITROGEN

This specification is approved for use by all Departments and Agencies of the Department of Defense.

Comments, suggestions, or questions on this document should be addressed to HQ-AFPET/AFTT, 2430 C Street, Bldg 70, Area B, Wright-Patterson AFB OH 45433-7632 or e-mailed to AFPET.AFTT@wpafb.af.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil>.

AMSC N/A

FSC 9135

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MIL-PRF-27401F

1. SCOPE

1.1 Scope. This specification covers the requirements for three grades and two types of nitrogen.

1.2 Classification. The nitrogen will be of the following types and grades as specified (see 6.2).

1.2.1 Types. The types of nitrogen are as follows:

Type I - Gaseous

Type II - Liquid

1.2.2 Grades. The grades of nitrogen are as follows:

Grade A - 99.5 percent pure, aerospace practices

Grade B - 99.99 percent pure, space vehicle and cabin environment

Grade C - 99.995 percent pure, special applications

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specification forms a part of this document to the extent specified herein. Unless otherwise specified, the issue of this document is the one cited in the solicitation or contract (see 6.2).

COMMERCIAL ITEM DESCRIPTIONS

A-A-58092 Tape, Antiseize, Polytetrafluorethylene

(Copies of this document is available online at <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Bldg 4D, Philadelphia PA 19111-5094.)

2.3 Non-government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

ASTM INTERNATIONAL

ASTM E 29 Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

ASTM F 307 Standard Practice for Sampling Pressurized Gas for Gas Analysis

ASTM F 310 Standard Practice for Sampling Cryogenic Aerospace Fluids

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(Copies of these documents are available online at <http://www.astm.org> or by mail at ASTM International, 100 Barr Harbor Drive, West Conshohocken PA 19428-2959)

COMPRESSED GAS ASSOCIATION (CGA)

CGA G-10.1	Commodity Specification for Nitrogen
CGA P-15	Filling of Industrial and Medical Nonflammable Compressed Gas Cylinders

(Copies of these documents are available online at <http://www.cganet.com> or by mail from the Compressed Gas Association, Inc., 4221 Walney Road, 5th floor, Chantilly, VA 20151-2923)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Grade requirements. The purity and impurity concentrations as applicable to each grade of nitrogen shall conform to the limits of Table I when tested in accordance with the applicable test method also specified in Table I. Other limits and tests may be specified by the procuring activity (see 6.2).

3.2 Limiting values. The following applies to all specified limits in this specification: For purposes of determining conformance with these requirements, an observed value or a calculated value shall be rounded off "to the nearest unit" in the last right-hand digit used in expressing the specification limit according to the rounding-off method of ASTM E 29 Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications.

3.3 Filter.

3.3.1 Containers. A filter with a rating of at least 10-micrometer nominal and 40-micrometer absolute rating shall be installed between the manufacturer's plant system and the manifold used to fill the gas or liquid containers for delivery.

3.3.2 Pipelines. A filter with a rating of at least 3.5-micrometer nominal and 12-micrometer absolute rating shall be installed downstream of compressors and/or converters and as close to the user's interface as possible for delivery into pipelines. The filter shall remove all particles greater than 100 micrometers in any dimension.

3.4 Filled containers (Type I only).

3.4.1 Pressure. The filling pressure for tube trailers shall not differ from that required by the contract by more than 1% at 70°F when tested as specified in 4.5.1. Cylinders shall be filled to within 99 to 100 percent of their rated service pressure when tested as specified in 4.5.1. In no case shall the filling pressure exceed the rated service pressure of the container. Pressure-Temperature Filling Chart in CGA P-15 may be used.

3.4.2 Leakage. Containers shall not leak when tested according to 4.5.2.

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TABLE I. Grade limits for nitrogen.

	Grade			Test Method
	A	B	C	
Purity ^{a, b} , % by vol, min	99.5	99.99	99.995	4.4.1
Impurities, ppm by volume, max	5000	100	50	Note c
Water	26.3	11.5	5.7	4.4.2
Total hydrocarbons as methane	58.3	5.0	5.0	4.4.2
Oxygen	5000	50	20	4.4.2
Hydrogen	Note d	Note d	0.5	4.4.2
Argon ^e	Note d	20	2	4.4.2
Carbon dioxide ^e	Note d	5	5	4.4.2
Carbon monoxide ^e	Note d	5	5	4.4.2
Particulate ^f , mg/L, max	1.0	1.0	1.0	4.4.3

Notes.

- a. Percent nitrogen includes trace quantities of neon, helium, and argon.
- b. If direct method is required, use the alternate method found in 6.3.
- c. Sum, in parts per million (ppm), of water, hydrocarbons, oxygen, and, if applicable hydrogen, carbon monoxide, and carbon dioxide.
- d. No limit for this grade.
- e. If required by contract (see 6.2).
- f. Applies only to Type II (Liquid) nitrogen. The particulate limit may be removed by the procuring activity (see 6.2).

4. VERIFICATION

4.1 Points of inspection (see 6.2).

4.1.1 Containers. Unless otherwise specified, acceptance tests shall be conducted at the site of filling prior to shipment or departure.

4.1.2 Pipeline. When Type I nitrogen is delivered in pipeline, acceptance tests shall be conducted immediately prior to entering the user's system.

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4.2 Conformance inspection. Quality conformance tests shall consist of the following:

- a. Individual tests (Type I only)..... 4.2.1
- b. Sampling tests 4.2.2

4.2.1 Individual tests (Type I only). Each container shall be subjected to the following tests as described under 4.5:

- a. Filling pressure 4.5.1
- b. Leakage 4.5.2

4.2.2 Sampling test. The number of nitrogen containers shall be selected in accordance with Table II and subjected to the tests required by Table I.

TABLE II. Sampling for test.

Number of containers in lot	Number of containers to be sampled
1	1
2 – 40	2
41 – 70	3
71 – over	4

4.2.3 Lot definitions.

4.2.3.1 Type I. A lot is defined as all of the nitrogen supplied in one or more container(s) filled from a single manifold at the same time.

4.2.3.2 Type II. Each filled container shall constitute a lot.

4.2.3.3 Container Assemblies. A shipping conveyance consisting of multiple cylinders or tubes that are interconnected by a single manifold that equalizes the pressure across all cylinders/tubes to form a single unit is considered a single container for the purpose of this specification.

4.2.4 Sample. Each sample shall be of sufficient size to conduct all the quality conformance tests as specified herein. Unless otherwise specified, the quality conformance tests shall be performed on each required sample (see 6.2). When required, an equivalent sample shall be forwarded to a laboratory designated by the procuring activity for testing.

4.2.4.1 Sampling methods. Each sample taken for analysis shall be representative of the entire contents of the container being sampled. All equipment used shall be made of suitable materials. Unless otherwise specified in the acquisition requirements (see 6.2), sampling shall be accomplished by one of the following methods.

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a. Type I, gaseous nitrogen may be sampled in accordance with ASTM F 307 and Type II, liquid nitrogen may be sampled in accordance with ASTM F 310. It is critical that the outlet of the sampling port be clean and free of contaminants.

b. Connect the shipping container being sampled directly to the analytical equipment using suitable pressure regulation as required to prevent over-pressurization of the equipment.

4.2.5 Non-Bulk Containers. Non-bulk containers are defined as containers of 400 liters or less water capacity. The number of containers filled with Type I (gaseous) nitrogen selected for sampling from each lot shall be in accordance with Table II. The first and last containers to be filled within a given lot are typically sampled. Other samples may be selected at random. Every container filled with Type II (liquid) nitrogen shall constitute a lot and will be sampled.

4.2.6 Bulk transports. Bulk containers are defined as containers of more than 400 liters water capacity. Each bulk container filled with Type I (gaseous) or Type II (liquid) nitrogen constitute a lot and shall be sampled.

4.2.6.1 Continuous service (see 6.6.1). Unless otherwise specified by the procuring activity, the following sample option for nitrogen shall be used for storage and transport tanks engaged in continuous nitrogen service (see 6.2). Contractor shall sample the contents of each transport tank engaged in continuous nitrogen service at least once every seven days at uniform intervals of time. Samples shall be taken from the filled transport tanks. Contractor shall sample the contents of each transport tank when entering continuous service and when the transport tank has remained empty for a period greater than 24 hours. When empty, all ports and vents shall remain closed to the atmosphere. While in continuous service, compliance with quality conformance tests specified herein shall be determined by sampling the filling point storage tank after each addition or, in case of continuous production, at established intervals not less frequent than once every 24 hours. When a storage tank is being filled during a change of duty shift, sampling shall be performed after filling.

4.2.7 Pipelines. Unless otherwise specified in the contract, the following sampling plan shall be used for pipelines: Sampling to determine specification compliance shall be accomplished by drawing liquid phase samples from each filled container transporting liquid for conversion to gas and by drawing samples from the gas supplied into the user's system (see 6.2).

4.2.7.1 Liquid phase samples. Liquid phase samples shall be tested for each parameter in applicable grade of Type II nitrogen. Sampling under the "continuous service" provisions can be applied.

4.2.7.2 Gas phase samples.

a. Samples shall be tested for each parameter in the applicable grade of Type I nitrogen. Samples shall be drawn in accordance with 4.2.4 from a point immediately prior to entering the user's system. The frequency of sampling shall not be less than once every seven days at regular intervals.

b. When specified in contract, in-line samples shall be drawn and tested with continuous monitors for each parameter specified in contract for the applicable grade of Type I nitrogen. Each analyzer shall be equipped with a permanent recording device. When specified in contract, an alarm system to indicate contaminant contents in excess of specified maximum shall be provided (see 6.2).

c. After internal exposure of the pipeline to the atmosphere or other foreign materials, a sample of gas shall be taken from the pipeline prior to delivery into the user's system at a point between the final filter and the interface with the Government system. The sample shall be tested for each parameter in applicable grade of Type I nitrogen. After cleaning operation, the sample shall also be tested for contamination by vapors from the cleaning materials.

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4.3 Rejection. When any sample tested in accordance with 4.4 fails to conform to the requirements specified herein, the entire lot represented by the sample shall be rejected.

4.4 Analytical procedures. Unless otherwise specified, samples shall be analyzed according to the procedures described in 4.4.2 (see 6.2). Calibration gas standards may be required to calibrate (zero and span) analytical instruments used to determine the purity and impurity contents of the nitrogen. The accuracy of the calibration gas standards is to be traceable to the National Institute of Standards and Technology.

4.4.1 Nitrogen content. The nitrogen content in percent shall be found by determining the aggregate impurities by the methods described in 4.4.2. The nitrogen purity is the value obtained when the aggregate impurities, expressed as volume percent, is subtracted from 100 percent.

4.4.2 Impurities. Methods shall be selected from those of CGA G-10.1.

4.4.3 Particulate content. A filter holder assembly, (Pall Life Sciences part number 2220), or equivalent modified as shown in Figure 1 shall be attached to the withdrawal line of the vessel to be utilized to fill the tanks. A preweighed filter paper (47 mm glass fiber paper, type A/E or equivalent) shall be placed on top of another filter of the same kind. The filters shall then be placed on the porous filter support, which, in turn, shall be placed in the filter holder as shown in Figure 1. The male threads of the filter holder shall be wrapped with thin, nonadhesive-backed polytetrafluorethylene tape A-A-58092 or equivalent to prevent galling of the threads. The holder shall be tightened by hand as tight as possible to prevent bypassing of the filter element. The discharge liquid from the filter housing shall be collected in a clean, uninsulated, ambient temperature vessel marked to indicate when 5 liters of liquid have been collected. The liquid flow shall be terminated when 5 liters of liquid have been collected. The filter holder shall be removed from the line and permitted to reach ambient temperature. The warmup to ambient temperature may be expedited by use of an oven or other heat source. Care shall be exercised to ensure that any airflow which enters the unit will be directed through the inlet of the assembly to prevent displacing any particles from the surface of the filter. Upon warmup, the other side of the holder shall be wiped with a clean cloth and the holder then disassembled. The filter paper shall be closely inspected. The test shall be repeated if evidence of either (a) the filter not being securely clamped by uniform depression of its edge; (b) the filter having been cut by the holder; or (c) when dirt particles are detected in the clamped area indicating bypassing had been encountered. The test shall also be repeated when either the bottom filter shows any discoloration or when leakage of liquid from the filter holder is detected. Upon completion of a valid test the filter shall be removed from the housing and weighed to the nearest 0.1 mg.

4.5 Containers of Type I nitrogen.

4.5.1 Filling pressure. Containers shall be tested for proper filling pressure by attaching a calibrated Bourdon-tube gauge or equivalent to the valve outlet and by attaching either a thermocouple or thermometer to the container wall. The gauge shall have scale divisions not greater than 100 kPa (15 psi). If a thermometer is used, tape or putty shall be applied to the bulb to protect it from extraneous temperatures. Putty shall not be applied between the bulb and the container wall. The thermometer shall have scale divisions not greater than 1°C (2°F). The containers shall be stabilized to ambient temperature. Then the valve shall be opened and the internal pressure observed on the gauge. If the internal pressure differs from the applicable pressure value by more than 100 kPa (15 psi), the container, and all other containers filled from the same manifold at the same time shall be rejected.

4.5.2 Leakage. Each Type I nitrogen container shall be tested for leaks at the neck threads, stem packing, and safety device of the valve with leak-detection fluid. Valve seat leakage shall be tested after filling has been completed by connecting a hose to the valve outlet and placing the other end of the hose under the surface of a liquid.

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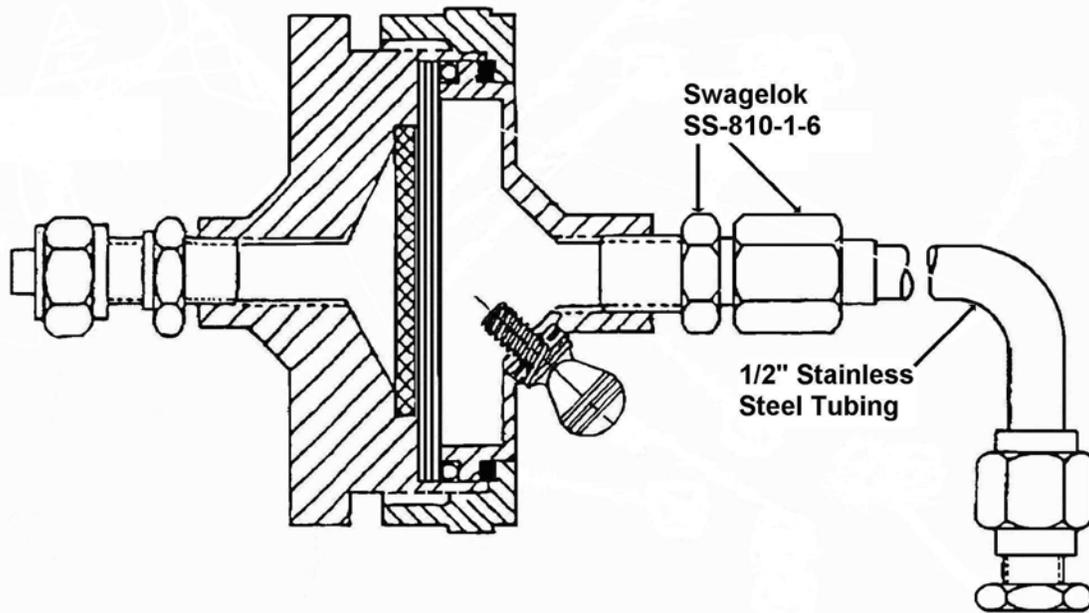


FIGURE 1. Filter, Cryogenic Liquids

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the military service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The nitrogen covered by this specification is intended as a purging and pressurizing medium for rocket propellant systems, space vehicles and support equipment and for preparing oxygen-nitrogen mixtures for breathing purposes on board space vehicles (see 1.2.2).

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6.6 Definition.

6.6.1 Continuous service. Continuous service applies to continuous deliveries under Government contract of nitrogen complying with the quality conformance tests specified herein.

6.7 Subject term (key word) listing.

Aerospace
Cryogenic
Cylinders
Pipeline
Space vehicle

6.8 Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodians:

Army – MI
Navy – AS
Air Force – 68
DLA – PS

Preparing activity:

Air Force – 68
(Project 9135-2007-003)

Review activities:

Air Force – 19
Air Force – 11

Civil Agency:

NASA – NA

Note: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information using the ASSIST Online database at <http://assist.daps.dla.mil>.

PURCHASE DESCRIPTION
ARGON, LOW-WATER and ULTRAPURE

1. SCOPE AND CLASSIFICATION.

1.1 Scope. This purchase description covers the requirements for two types and two grades of argon.

1.2 Classification. The argon will be of the following types and grades as specified in the contract or purchase order:

1.2.1 Types.

Type I – Gaseous

Type II – Liquid

1.2.2 Grades.

Grade LW -- 99.997% purity with specific requirements for water and oxygen

Grade UP -- Ultrapure Carrier Grade (min 99.999% pure)

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in Sections 3 and 4 of this purchase description. This section does not include documents in other sections of this purchase description or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3 and 4 of this purchase description, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following standard forms a part of this document to the extent specified herein. Unless otherwise specified, the issue of this document is that listed in the issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

DEPARTMENT OF DEFENSE

MIL-STD-129 – Military Marking for Shipment and Storage

MIL-STD-1411 – Inspection and Maintenance of Compressed Gas Cylinders

Beneficial comments (recommendations, additions, deletions) and any data which may be of use in improving this document should be sent to:

DESC-BP
Building 1621-K
2261 Hughes Ave, Ste 128
Lackland AFB TX 78236-9828

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DoDISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DoDISS are the issues of the documents cited in the solicitation.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- ASTM E 29 – Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
- ASTM F 307 – Standard Practice for Sampling Pressurized Gas for Gas Analysis
- ASTM F 310 – Standard Practice for Sampling Cryogenic Aerospace Fluids

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken PA 19428-2959.)

Compressed Gas Association (CGA)

- CGA G-11.1 - Commodity Specification for Argon
- CGA P-15 - Filling of Industrial and Medical Nonflammable Compressed Gas Cylinders

(Application for copies should be addressed to the Compressed Gas Association, Inc., 4221 Walney Road, Chantilly VA 20151-2923)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Chemical and physical properties. The composition of the product shall conform to the limits listed in Table I when tested in accordance with the applicable test methods.

Table I – Composition

Property	Grade		Test Paragraph
	LW	UP	
Purity (Ar), % Vol, min	99.997	99.999	4.5.1
Water, ppm by volume, max	0.2	1.0	4.5.2
Dew Point, °C(°F)	-90(-130)	-76.1(-105)	4.5.2
Oxygen, ppm by volume, max	30	1.0	4.5.2
Hydrogen, ppm by volume, max	No Limit	2.0	4.5.2
Nitrogen, ppm by volume, max	No Limit	8.0	4.5.2
Total Hydrocarbons as methane ppm by volume, max	No Limit	0.5	4.5.2
Carbon Dioxide	No Limit	0.5	4.5.2
Carbon Monoxide	No Limit	1.0	4.5.2
Nitrous Oxide	No Limit	0.1	4.5.2

3.2 Limiting values. For purposes of determining conformance with these requirements, an observed value or a calculated value shall be rounded off "to the nearest unit" in the last right-hand digit used in expressing the specified limit according to the rounding-off method of ASTM Practice E 29 for Using Significant Digits in Test Data to Determine Conformance with Specifications.

3.3 Filter. Unless otherwise specified by the contract or purchase order, a filter with no more than a 10-micrometer nominal and 40-micrometer absolute rating shall be installed between the manufacturer's plant system and the manifold used to fill the gas or liquid containers for delivery.

3.4 Filled Containers (Type I only).

3.4.1 Filling Pressure. The filling pressure shall not differ from that required by the contract by more than 1.0% at 70°F, and in no case shall it exceed the rated service pressure of the container. Pressure-Temperature filling Charts in CGA P-15 may be used.

3.4.2 Leakage. Filled cylinders shall not leak when tested according to 4.6.2.

4. VERIFICATION

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in this purchase description where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Conformance Inspection. The inspection and testing of the requirements specified herein are classified as quality conformance tests and shall consist of the following.

4.2.1 Sampling tests. The argon shall be sampled according to 4.3 and the samples tested for conformance to the limits of Table I utilizing the procedures described under 4.5.

4.2.2 Individual tests. Each container (cylinder, tube or bulk conveyance) shall be subjected to the tests described under 4.6.

4.3 Sampling plan.

4.3.1 Sample Size. Each sample shall be of sufficient size to conduct all of the quality conformance tests as specified herein.

4.3.2 Sampling Methods. Unless otherwise specified, Type I (gaseous) product shall be sampled in accordance with ASTM F 307; Type II (liquid) product shall be sampled in accordance with ASTM F 310. All apparatus used shall be made of suitable materials. Each sample taken for analysis shall be representative of the product being sampled.

4.3.3 Cylinders. Unless otherwise specified in the contract or purchase order, each filled cylinder (pressure and Dewar types) offered for shipment shall constitute a lot and be sampled for analysis.

4.3.4 Bulk Conveyance. For bulk shipments, each filled container shall constitute a lot. Each individual tube on a tube-bank trailer is considered a separate container. A sample for analysis shall be taken from each portable tank, cargo tank, tank car, or tube filled with Type I (gaseous) or Type II (liquid) argon.

4.4 Rejection and retest. When any sample of the product tested in accordance with 4.2 fails to conform to the requirements specified herein, the entire lot represented by the sample shall be rejected.

Rejected material shall not be resubmitted without furnishing full particulars concerning previous rejection and measures taken to overcome defects.

4.5 Test methods. Unless otherwise specified, samples shall be analyzed according to the procedures described below. Calibration gas standards may be required to calibrate (zero and span) analytical instruments used to determine the purity and impurity contents of the argon. The accuracy of the calibration gas standards is to be traceable to the National Institute of Standards and Technology.

4.5.1 Purity. The argon content of the sample shall be calculated by the following formula:

$$\% Ar = 100 - \left(\frac{\sum C_i}{10000} \right)$$

where,

$\% Ar$ = purity (%vol).

$\sum C_i$ = the sum of the impurities found in the sample as determined in 4.5.2 (ppmV).

4.5.2 Impurities. The analytical procedures described in CGA specification G-11.1 shall be used to determine the concentrations of the components identified as impurities in Table I (including the impurities with no limit specified).

4.6 Container. For purposes of this paragraph, a container is defined as an individual cylinder, an individual tube in a tube bank trailer, or multiple cylinders that are interconnected by a single manifold that equalizes the pressure across all cylinders.

4.6.1 Filling Pressure. Containers shall be tested for proper filling pressure by attaching a calibrated Bourdon-tube gauge or equivalent to the valve outlet and by attaching either a thermocouple or thermometer to the container wall. The gauge shall have scale divisions no greater than 15 psi (100 kPa). If a thermometer is used, tape or putty shall be applied to the bulb to protect it from extraneous temperatures. Putty shall not be applied between the bulb and the cylinder wall. The thermometer shall have scale divisions no greater than 2°F (1°C). The containers shall be stabilized to ambient temperature. Then the valve shall be opened and the internal pressure observed on the gauge.

4.6.2 Leakage. Each container shall be tested for leaks at the neck threads, stem packing, and safety device of the valve with leak-detection fluid. Valve seat leakage shall be tested by means of a tube from the valve outlet to a container of liquid.

5. PACKAGING.

5.1 Cylinders. Unless otherwise specified in the contract or purchase order, cylinders shall be prepared in accordance with MIL-STD-1411.

5.2 Labeling and Marking. Unless otherwise specified in the contract or purchase order, the packaging and marking requirements shall be in accordance with MIL-STD-129.

TRANSPORT EQUIPMENT DELAY CERTIFICATE

1. CONSIGNOR	2. CONSIGNEE	3. PRODUCT
4. CARRIER	5. TRAILER NUMBER	6. DATE SHIPPED
7. FREIGHT BILL NUMBER	8. CBL NUMBER	9. SEAL NUMBER

10. LOADING/UNLOADING INFORMATION					
	DATE RECEIVED	TIME		DATE RECEIVED	TIME
A. ARRIVED			D. FINISH		
B. ACCEPTED FOR LOADING/UNLOADING			E. UNIT RELEASED		
C. START			F. TOTAL HOUR HELD		

11. REASON FOR DELAY *(Make a complete statement adequately describing each segment of delay, amount of time on each delay, and whether delay was the responsibility of carrier or consignee/consignor)*

12. DETENTION CERTIFICATION STATEMENT : I certify that the above information is true and correct to the best of my knowledge.		
SIGNATURE AND TITLE OF CONSIGNEE	SIGNATURE AND TITLE OF SHIPPER	SIGNATURE OF DRIVER

13. NOTE TO CARRIER: A copy of "TRANSPORT EQUIPMENT DELAY CERTIFICATE" must accompany each detention invoice to provide documentation for invoice certification and payment.

CONTRACTOR PERFORMANCE DATA SHEET

Please submit the requested information for government and non-government contracts or subcontracts held (not to exceed 3 years since completion) for contracts that are similar to the requirements of this solicitation. Those contracts and/or subcontracts submitted may include those still in progress, however they should have a minimum of one year’s performance history.

Please mark this box if you have not performed under contracts that are similar in nature to the solicitation requirements.

COMPANY NAME	POINT OF CONTACT	PHONE NUMBER	FAX NUMBER	PRODUCT SUPPLIED	QTY	METHOD OF DELIVERY	PLACE OF PERFORMANCE	PERIOD OF PERFORMANCE	SUBCONTRACTING PLAN (YES OR NO)