

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS OFFEROR TO COMPLETE BLOCKS 12,17,23,24, & 30				1. REQUISITION NUMBER	PAGE OF PAGES 1
2. CONTRACT NO. 80KSC019D0023	3. AWARD/EFF. DATE 7/1/19	4. ORDER NUMBER	5. SOLICITATION NUMBER	6. SOLICITATION ISSUE DATE	
7. FOR SOLICITATION INFORMATION CALL:	a. NAME		b. TELEPHONE NUMBER (No collect calls)		8. OFFER DUE DATE/LOCAL TIME
9. ISSUED BY CODE NASA Kennedy Space Center Office of Procurement MAIL CODE OP Kennedy Space Center FL 32899			10. THIS ACQUISITION IS <input checked="" type="checkbox"/> UNRESTRICTED OR <input type="checkbox"/> SET ASIDE: _____ % FOR: <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> WOMAN-OWNED SMALL BUSINESS <input type="checkbox"/> HUBZONE SMALL BUSINESS <input type="checkbox"/> WOSB ELIGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM <input type="checkbox"/> SERVICE-DISABLED <input type="checkbox"/> EDWOSB NAICS: 325120 <input type="checkbox"/> VETERAN-OWNED <input type="checkbox"/> 8(A) SIZE STANDARD: 1,000 <input type="checkbox"/> SMALL BUSINESS		
11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED <input type="checkbox"/> SEE SCHEDULE	12. DISCOUNT TERMS Net 30 days		13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700) <input type="checkbox"/>		13b. RATING
15. DELIVER TO CODE			16. ADMINISTERED BY CODE NASA Kennedy Space Center Office of Procurement MAIL CODE OP Kennedy Space Center FL 32899		
17a. CONTRACTOR/ OFFEROR CODE 0LV01 FACILITY CODE PRAXAIR 10 RIVERVIEW DR DANBURY CT 06810-6268 TELEPHONE NO.			18a. PAYMENT WILL BE MADE BY CODE https://www.nssc.nasa.gov/vendorpayment NSSC-AccountsPayable@nasa.gov		
17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER <input type="checkbox"/>			18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED. <input type="checkbox"/> SEE ADDENDUM		
19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTIT Y	22. UNIT	23. UNIT PRICE	24. AMOUNT
See Continuation Sheet If Applicable					
25. ACCOUNTING AND APPROPRIATION DATA See Continuation Sheet If Applicable				26. TOTAL AWARD AMOUNT (For Govt Use Only) \$9,008,942.24	
<input type="checkbox"/> 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA <input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED. <input checked="" type="checkbox"/> 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA <input checked="" type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.					
<input checked="" type="checkbox"/> 28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 1 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.			<input checked="" type="checkbox"/> 29. AWARD OF CONTRACT: REF. 80KSC019R0015 OFFER DATED 05/23/2019 YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS:		
30a. SIGNATURE OF OFFEROR/CONTRACTOR 			31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER) 		
30b. NAME AND TITLE OF SIGNER (TYPE OR PRINT) Doreen Heal Director Government Programs		30c. DATE SIGNED 6/28/19	31b. NAME OF CONTRACTING OFFICER (TYPE OR PRINT) Marco Pochy		31c. DATE SIGNED 7/1/19
AUTHORIZED FOR LOCAL REPRODUCTION PREVIOUS EDITION IS NOT USABLE					

CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED
80KSC019D0023

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NAME OF OFFEROR OR CONTRACTOR

PRAXAIR

ITEM NO (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Deliver to: Glenn Research Center (GRC) Cleveland, OH 44135 Kennedy Space Center (KSC) Kennedy Space Center, FL 32899 Cape Canaveral Air Force Station (CCAFS), Cape Canaveral, FL 32920 This is a fixed-price, economic price adjustment (EPA), indefinite delivery (ID) requirements contract for the purchase of liquid oxygen for Glenn Research Center (GRC) and Kennedy Space Center/Cape Canaveral Air Force Station (KSC/CCAFS) Attachment 001: Clauses and Provisions Attachment 002: Statement of Work Attachment 003: Economic Price Adjustment Clauses Attachment 004: Capability Form				
0001	CLIN 022 GRC				\$489,092.80
0002	CLIN 024 KSC/CCAFS				\$530,764.00
0003	CLIN 025 KSC/CCAFS				\$3,794,295.30
0004	CLIN 027 KSC/CCAFS				\$1,419,831.16
0005	CLIN 028 KSC/CCAFS				\$1,677,033.60
0006	CLIN 029 KSC/CCAFS				\$1,095,925.38

ATTACHMENT 001- ADDITIONAL TERMS AND CONDITIONS**SECTION B- SUPPLIES OR SERVICES****B.1 SUPPLIES AND/OR SERVICES TO BE PROVIDED**

This is a fixed-price, economic price adjustment (EPA) indefinite delivery (ID) requirements contract for the purchase of liquid and oxygen during the contract period of performance. The delivery locations and estimated quantities are specified in the schedule as Contract Line Item Numbers (CLINs). The contractor shall provide all resources (except as may be expressly stated in the contract as furnished by the Government) necessary to deliver the items identified in the schedule of supplies located in section B.2 and in accordance with the Statements of Work in Attachment 002.

Liquid and Oxygen shall be delivered to the following locations:	
Glenn Research Center (GRC)	Cleveland, OH 44135
Kennedy Space Center / Cape Canaveral Air Force Station (KSC/CCAFS)	KSC, FL 32899 / CCAFS, FL 32920

(End of Clause)

B.2 SCHEDULE OF SUPPLIES

80KSC019D0023													
CLIN	LOCATION/DESCRIPTION	OXYGEN SPECIFICATION	UNIT	ORDER LIMITATIONS				BEST EST. YEARLY QTY Contract Year 1 BEST EST. YEARLY QTY Contract Year 1	BEST EST. YEARLY QTY Contract Year 2 BEST EST. YEARLY QTY Contract Year 2	BEST EST. YEARLY QTY Contract Year 3 BEST EST. YEARLY QTY Contract Year 3	BEST EST. YEARLY QTY Contract Year 4 BEST EST. YEARLY QTY Contract Year 4	BEST EST. YEARLY QTY Contract Year 5 BEST EST. YEARLY QTY Contract Year 5	BEST EST. TOTAL QTY (all 5 years)
022	GRC	MIL-PRF-25508H Type II Grade A	Ton	10	80	240	400	7/1/19-6/30/20	7/1/20-6/30/21	7/1/21-6/30/22	7/1/22-6/30/23	7/1/23-6/30/24	7/1/2019-6/30/2024
024	KSCCASF	MIL-PRF-25508H Type II Grade A	Ton	20	70	130	N/A	1,000	1,000	1,000	1,000	1,000	5,000
025	KSCCASF (see notes 7, 11)	MIL-PRF-25508H Type II Grade A	Ton	20	276	1,104	1,104	3,200	7,050	7,200	6,000	6,000	29,450
027	KSCCASF Delta IV hvy (see notes 9, 11)	MIL-PRF-25508H Type II Grade A	Ton	20	322	1,288	2,576	1,288	1,288	1,288	1,288	1,288	6,440
028	KSCCASF SLS (see notes 10, 11)	MIL-PRF-25508H Type II Modified Grade A	Ton	20	230	460	1,840	1,530	1,530	1,530	1,530	1,530	7,650
029	KSCCASF SLS launch (see notes 10, 11)	MIL-PRF-25508H Type II Modified Grade A	Ton	100	230	690	2,760	0	1,380	0	1,380	1,380	4,140

Note 7: First delivery under CLIN 019 not expected until contract year 2.

Note 7: Requirement is for up to 10 tankers at one time and up to 12 tankers (two waves of 6 tankers) in one day.

Note 9: Delta IV heavy CLIN support begins with the completion of the practice launch countdown (wet dress rehearsal) milestone and ends upon launch. Delta IV heavy support requires 5 tankers at one time, followed by 5 tankers within approximately 3 hours of the first 5 tankers, followed by 4 tankers within the following 5 hours. An example of Delta IV Heavy launch support for is below. Real time factors may change the launch support. Daily and weekly maximums remain applicable.

Day 1 – Wave 1: 5 tankers delivered

Wave 2: 5 tankers delivered within 3 hours of wave 1

Wave 3: 4 tankers delivered within 5 hours of wave 2

Day 2 – Wave 1: 5 tankers delivered

Wave 2: 5 tankers delivered within 3 hours of wave 1

Wave 3: 4 tankers delivered within 5 hours of wave 2

Day 3 – OFF

Day 4 – OFF

Day 5 – Wave 1: 5 tankers delivered

Wave 2: 5 tankers delivered within 3 hours of wave 1

Wave 3: 4 tankers delivered within 5 hours of wave 2

Day 6 – Wave 1: 5 tankers delivered

Wave 2: 5 tankers delivered within 3 hours of wave 1

Wave 3: 4 tankers delivered within 5 hours of wave 2

Note 10: Modified Grade A liquid oxygen (99.85% purity). Routine SLS (Space Launch System) support, CLIN 028, requires up to 5 tankers at one time, up to two waves of 5 tankers in one day, and up to two times per week. SLS launch, CLIN 029, requires up to 5 tankers at one time, up to two waves of 5 tankers in one day, up to 3 times per week. CLIN 029 is planned to be utilized following two SLS scrubbed launch attempts and following the SLS wet dress rehearsal.

Note 11: Regarding liquid oxygen launch support to KSC/CCAFS under CLINs 025, 026, 027, 028, and 029. A single contractor is not required to provide more than the highest single daily, weekly, or monthly tonnage required no matter how many CLINs have been awarded to that contractor. For example, if contractor A is awarded CLINs 026 and 027, contractor A is not required to provide more than 322 tons a day, 1,288 tons a week, or 2,576 tons a month. If contractor B is awarded CLINs 025, 028, and 029 then contractor B is not required to provide more than 276 tons a day, 1,104 tons a week, or 2,760 tons a month. Under this circumstance, the Government may request shipment in the amount of 322 tons from contractor A and 276 tons from contractor B to be delivered on the same day.

(End of Clause)

B.3 CONTRACT PERIOD PRICING

The price of "Contract Year 1 - Contract Period 1" for each CLIN shall be added to this section upon contract award. Subsequent periods shall be adjusted utilizing the procedures outlined in Section B.5, Economic Price Adjustment.

CLIN	UNIT	PRICE PER TON/GALLON/LITER									
		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
		Contract Period 1 07/01/19 — 12/31/19	Contract Period 2 01/01/20 — 06/30/20	Contract Period 3 07/01/20 — 12/31/20	Contract Period 4 01/01/21 — 06/30/21	Contract Period 5 07/01/21 — 12/31/21	Contract Period 6 01/01/22 — 06/30/22	Contract Period 7 07/01/22 — 12/31/22	Contract Period 8 01/01/23 — 06/30/23	Contract Period 9 07/01/23 — 12/31/23	Contract Period 10 01/01/24 — 06/30/24
22	Ton	(b) (4)									
24	Ton										
25	Ton										
27	Ton										
28	Ton										
29	Ton										
EPA INDEX PERIODS		Apr-19 thru Sep-19	Oct-19 thru Mar-20	Apr-20 thru Sep-20	Oct-20 thru Mar-21	Apr-21 thru Sep-21	Oct-21 thru Mar-22	Apr-22 thru Sep-22	Oct-22 thru Mar-23	Apr-23 thru Sep-23	

B.4 OTHER PRICING OPTIONS

Refer to Attachment 001 Section E for a description of each pricing option.

Emergency Delivery – Section E.1(b)

Inability to Accept Delivery – Section E.7

Demurrage – Section E.8

Hot Tank Fill – Section E.9

Short Notice Changes – Section E.10

CLIN	Description	Unit	Best Estimated Qty per Year	Unit Price Year 1	Unit Price Year 2	Unit Price Year 3	Unit Price Year 4	Unit Price Year 5
3	Demurrage	Price Per ¼ Hr	8	(b) (4)				
3	Inability to Accept Delivery	Price Per Mile	272					
3	Emergency Delivery	Price Per Occurrence	5					
3	Hot Tank Fill	Price Per Occurrence	2					
22	Demurrage	Price Per ¼ Hr	8	(b) (4)				

22	Inability to Accept Delivery	Price Per Mile	272
22	Emergency Delivery	Price Per Occurrence	5
22	Hot Tank Fill	Price Per Occurrence	2
24	Demurrage	Price Per ¼ Hr	8
24	Inability to Accept Delivery	Price Per Mile	46
24	Emergency Delivery	Price Per Occurrence	5
24	Hot Tank Fill	Price Per Occurrence	2
25	Demurrage	Price Per ¼ Hr	8
25	Inability to Accept Delivery	Price Per Mile	46
25	Emergency Delivery	Price Per Occurrence	5
25	Hot Tank Fill	Price Per Occurrence	2
25	Short Notice Changes	Price Per Tanker	10
27	Demurrage	Price Per ¼ Hr	8
27	Inability to Accept Delivery	Price Per Mile	46
27	Emergency Delivery	Price Per Occurrence	5
27	Hot Tank Fill	Price Per Occurrence	2
27	Short Notice Changes	Price Per Tanker	10
28	Demurrage	Price Per ¼ Hr	8
28	Inability to Accept Delivery	Price Per Mile	46
28	Emergency Delivery	Price Per Occurrence	5
28	Hot Tank Fill	Price Per Occurrence	2
28	Short Notice Changes	Price Per Tanker	10

(b) (4)

29	Demurrage	Price Per ¼ Hr	8	(b) (4)				
29	Inability to Accept Delivery	Price Per Mile	46					
29	Emergency Delivery	Price Per Occurrence	5					
29	Hot Tank Fill	Price Per Occurrence	2					
29	Short Notice Changes	Price Per Tanker	10					

B.5 ECONOMIC PRICE ADJUSTMENT

See Attachment 003, Economic Price Adjustment Clause, for EPA formulas by CLIN.

[End of Section]

SECTION C- DESCRIPTION/SPECIFICATION/WORK STATEMENT**C.1 STATEMENT OF WORK**

See Attachment 002, Statements of Work, for a description of the requirements per CLIN and location.

C.2 PERFORMANCE SPECIFICATION

All requirements delivered under this contract shall be provided in accordance with the following performance specifications, which are available online at internet addresses referenced below:

MIL-PRF-25508 (Rev. H) dated October 27, 2011, entitled, "Propellant, Oxygen"

MIL-PRF-27210 (Rev. J) dated August 7, 2013, entitled, "Oxygen, Aviator's Breathing, Liquid and Gas"

<http://quicksearch.dla.mil>

Product supplied shall fully meet the requirements of the applicable specification(s) as indicated in the Section B.2, Schedule of Supplies, except as modified in Attachment 002, Statement of Work.

Note: Please refer to H.1, Laboratory Analysis, and Attachment 002, Statements of Work, for particulate testing requirements and optional analysis.

(End of clause)

[End of Section]

SECTION D- PACKAGING AND MARKING

D.1 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA. (JAN 1997) - ALTERNATE I (JUL 1995)

[End of Section]

SECTION E - INSPECTION AND ACCEPTANCE

E.1 DELIVERY REQUIREMENTS

- (a) The contractor shall provide delivery capability for Government requirements to the delivery points specified in Section B.2. Delivery conveyances must comply with applicable DOT regulations. The contractor shall comply with applicable safety standards and maintain purity of product during loading and delivery. The contractor shall develop, maintain, and make available to the Government all conveyance operating procedures. Note: The amount of delivery equipment shall be sufficient to allow for operational variations, maintenance, downtime, Department of Transportation (DOT) requirements, and contingency provisions
- (b) The contractor shall ensure the on-schedule delivery of liquid and oxygen ordered by the Government. Each request for shipment shall set the required delivery by specifying the date, time, location, quantities, and any other pertinent information regarding the shipment. The Government will provide notice prior to requiring delivery of ordered product as set forth in Attachment 002. Requests for shipment placed less than 48 hours shall incur a short notice emergency delivery charge at the price per occurrence specified in Section B.4.
- (c) The contractor shall provide trained personnel necessary for offloading product from the tankers to the government interface. User locations will provide personnel to operate facility equipment. During offloading, the contractor shall operate the tanker in accordance with approved procedures.
- (d) Ancillary equipment and services may be required to effect delivery of liquid oxygen to satisfy Government requirements. Ancillary equipment and services includes, but is not limited to, temporary cryogenic storage vessels, liquid-to-gas conversion units (receivers, pumps, vaporizers, and associated piping), and other equipment and services to support related propellant requirements under this contract. The contracting officer administering the applicable delivery order will be notified of the ancillary requirement and will issue a delivery order modification with negotiated pricing.
(End of clause)

E.2 MATERIAL INSPECTION AND RECEIVING REPORT

- (a) At the time of each delivery under this contract, the contractor shall furnish to the Government a Material Inspection and Receiving Report (DD Form 250 series or equivalent commercial document), prepared in duplicate (original and one copy). If the contractor elects to use the DD Form 250, it shall be prepared in accordance with NASA FAR Supplement 1846.6. Note: Equivalent commercial document must contain the same level of detail/specificity as the DD Form 250.
- (b) Upon delivery of product to the destination, each copy of the Material Inspection and Receiving Report shall be signed and dated by the receiver. The original shall remain with the contractor's driver making the delivery, and one copy shall be retained by the receiving destination as proof of delivery.
- (c) A legible copy of the applicable contractor quantity delivered measurement ticket shall be attached to each copy of the Material Inspection and Receiving Report submitted for each delivery. The quantity delivered measurement ticket shall include the associated shipment number and tanker number as cross reference to the Material Inspection and Receiving Report. The foregoing documentation shall be submitted with all invoices.
- (d) Contractor shall overprint, in an appropriate space on each Material Inspection and Receiving Report,

any applicable tanker unloading demurrage invoiced in accordance with this contract. Such demurrage shall be certified by personnel of the receiving activity who are not in the employ of the contractor. At the Government's option, and when available, Government personnel may be required to certify demurrage charges.

(End of Clause)

E.3 CERTIFICATE OF CONFORMANCE

A certificate of conformance shall accompany each delivery to verify product quality and quantity. The contractor's quality assurance representative shall sign and date the certificate of conformance to verify quantity, quality, and proper documentation (i.e., laboratory analysis, etc.) at origin. The signed certificate of conformance shall be attached to, or entered on, copies of the DD Form 250, or equivalent commercial document. The certificate of conformance shall be prepared in accordance with FAR 52.246-15, paragraph (d).

(End of clause)

E.4 DETERMINATION OF BILLING

The delivered product price per unit includes all product and transportation costs for the quantities delivered and accepted. The unit price shall be F.O.B. destination. Scales or meters used in determining weight or volume shall be certified and must meet all specifications and user requirements and tolerance as stated in the National Institute of Standards and Technology (NIST) Handbook 44. Such scales or meters shall be calibrated annually and records of this calibration shall be maintained for a minimum of one year and made available to the contracting officer or designated representative upon request. After delivery of product, quantity delivered in units measured by scale or meter shall be annotated on a DD Form 250 or equivalent commercial document.

(End of clause)

E.5 QUALITY ASSURANCE, INSPECTION AND ACCEPTANCE

(a) Unless otherwise directed by the Contracting Officer, in-process inspection, end-item inspection, and test verification shall be performed by the Contractor at the Contractor's facilities, to ensure compliance with the contract requirements. The Government may perform periodic inspections or audits at the contractor's facilities to verify, inspect, and ensure that supplies meet the contract requirements, including calibrations, process control monitoring, drawings and specifications.

(b) Any delivery location will have the option to sample liquid oxygen being delivered and analyze it for impurities prior to off-loading the transport vehicle or container. Such sampling shall be subject to demurrage charges, as applicable in accordance with this contract. If the sample does not meet specification requirements, the load will not be accepted and will be returned to the Contractor's facility for disposition. In case of non-acceptance, no product, transportation, demurrage, or any other costs will be charged to, or be paid by the Government.

(c) The Contractor shall maintain records of inspections and tests performed on the items of this contract. All records and tests shall be traceable to the liquid oxygen delivered and shall include applicable tanker/trailer number, serial number, lot number, or any other acceptable method of identification. These records shall be made available to the Government, upon request, during the performance of this contract and for 180 days after delivery of the item(s).

(d) The Contractor shall develop and maintain documentation of a quality control program, including but not limited to: Plant operating procedures (as they relate to quality provisions); handling procedures;

loading and off-loading of shipping conveyances; storage; analytical instruments and scale calibrations; sampling; and analysis. Operating plans or procedures shall be submitted to the Government upon request. Final inspection and acceptance shall be accomplished at the receiving destination. Acceptance shall occur upon signoff by the receiving destination on the appropriate material inspection and receiving report.

(e) All applicable requirements included in the delivery order, including this clause, shall be flowed down to the organization's sub-tier suppliers.

(End of Clause)

E.6 PRODUCT INTEGRITY CONTROL

(a) The contractor shall furnish seals to prevent tampering with the propellant delivery tankers. The seals must easily identify any attempted tampering. The contractor shall seal all tankers prior to shipment.

(b) The contractor shall maintain cleanliness of shipping container interfaces, transfer hoses and fittings. The contractor shall seal all drain and fill ports prior to shipment from the facility of origin.

(c) The contractor shall inspect each loaded conveyance just prior to shipment to ensure all end connections are protected with dust covers (or other protectors) and there is no leakage of product.

(d) Upon arrival at the receiving destination propellant interface, conveyances shall be visually inspected by the receiving activity for hazardous conditions, cleanliness, and seal integrity. Any discrepancy is cause for rejection.

(End of Clause)

E.7 GOVERNMENT'S INABILITY TO ACCEPT DELIVERY

When the contractor makes a delivery to a single destination and the tanker cannot be accepted due to storage tank problems or for other reasons under the control of the receiving organization, and through no fault of the contractor, product charges will not be incurred; however, transportation charges will be based on the round-trip miles at the transportation price per mile specified in section B.4. Roundtrip mileage shall be from the primary plant source identified in Attachment 004, Capability Form. Plant Source to each specified receiving destination shall be based on internet website Google Maps, <http://maps.google.com/>

(End of Clause)

E.8 DEMURRAGE

The Government will pay the contractor demurrage for all delays in unloading propellant delivery tankers in excess of 4 hours after arrival and check-in at place of delivery, if such delay is without the fault or negligence of the contractor and is not caused by the failure of the contractor's equipment. If more than one tanker is scheduled for the same arrival time, demurrage charges shall begin 4 hours after arrival time of the last trailer in the group, and end at the release of the last trailer in the group. This unloading demurrage charge shall be paid the contractor per quarter-hour or fraction thereof. No demurrage charges shall be billed or paid for the loading of any propellant delivery tankers. If the free time has been exceeded, the driver, upon leaving the site, shall leave the consignee written documentation showing the date, time of arrival, time of departure, cause of delay, if known, and information identifying the shipment. The driver shall sign such documentation and shall request the consignee to do likewise. A copy thereof, as proof of delay, shall accompany all invoices for demurrage. Contractor shall ensure that all deliveries from a multi-source operation shall be effected at the lowest overall cost to the Government.

(End of Clause)

E.9 HOT TANK FILL

A hot tank is a storage container which no longer contains any, or very little, cryogen and has warmed to ambient temperature. A hot tank fill procedure is necessary for safe chill-down. The additional costs for the hot tank fill is in the form of labor and travel expenses to provide contractor expertise, when requested by the government, to safely perform the hot tank fill. The hot tank fill charge shall be on a "per occurrence" basis as specified in section B.4.

(End of Clause)

E.10 SHORT NOTICE CHANGES – FIVE OR MORE TANKERS AT ONE TIME

The Government acknowledges that requests for shipment of 5 tankers or more at one time require extensive coordination by the contractor and that short notice cancellation of delivery or short notice change of delivery results in additional costs to the contractor. Therefore, cancelling an order less than 24 hours prior to scheduled delivery or altering the schedule more than 12 hours with less than 24 hours' notice shall incur a charge at the price per tanker specified in the B.4. This charge shall only be applicable to orders of 5 tankers or more to be delivered at the same time and to the same location.

(End of clause)

E.12 FLASH REPORTS

The contractor shall provide the contracting officer, or his designated representative, with an immediate verbal Flash Report of any accident or incident which may have an adverse impact on the contractor's ability to deliver liquid cryogenic propellant to the Government, such as a plant outage (scheduled or unscheduled), trailer malfunction, or of any other occurrence in which the Government could reasonably be expected to have an interest by virtue of this contract. Such Flash Reports shall be confirmed in writing (electronic submission), in appropriate detail. Except as otherwise provided in this contract, the cost of data to be furnished in response to this contract is included in the price of this contract.

(End of Clause)

E.13 FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES:

52.246-11 HIGHER-LEVEL CONTRACT QUALITY REQUIREMENT (DEC 2014)

(a) The Contractor shall comply with the higher-level quality standard(s) listed below.

ISO 9001 Fifth Edition 2015-09-15

(End of clause)

E.14 ADDENDUM TO 52.212-4 CONTRACT TERMS AND CONDITIONS—COMMERCIAL ITEMS (OCT 2018)

Addendum to Paragraph (m) Termination for Cause. In addition to those requirements as stated in paragraph (m), the following is added and shall apply to this contract.

(a) In the event the Contractor is unable to meet its delivery obligations from the specified sources, the Contractor may supply the deficient quantities from other sources at the price agreed to in Section B.3 of this contract.

(b) If such deficient quantities are not so supplied, the Government may acquire liquid oxygen from other sources to the level of the quantities deficient, and the Contractor shall pay the Government the difference between the delivered price from such other source and the applicable delivered price under Section B.3 of this contract. In this situation, the Government will pay the full price for the spot delivery and may short pay the Contractor, on the next applicable invoice, an amount equal to the difference between the Contractor's normal price to the Government, and the price the Government paid for the spot delivery.

(c) In the event the Contractor continues to fail to deliver, correct deficiencies, or comply with contract terms and conditions, the Government may invoke its right to terminate for cause.
(End of Addendum to FAR 52.212-4)

[End of Section]

SECTION F – DELIVERIES OR PERFORMANCE**F.1 PLACE OF PERFORMANCE OR DELIVERY LOCATION**

NAME	LOCATION	CLINs
GRC	Cleveland, OH 44135	022
KSC / CCAFS	KSC, FL 32899 / CCAFS, FL 32920	024, 025, and 027-029

(End of clause)

F.2 PERIOD OF PERFORMANCE

The period of performance is from July 1, 2019, through June 30, 2024 (a base contract of five (5) years with no options).

(End of clause)

[End of Section]

SECTION G – CONTRACT ADMINISTRATION DATA**G.1 ADDENDUM TO 52.212-4 CONTRACT TERMS AND CONDITIONS—COMMERCIAL ITEMS (OCT 2018)**

Addendum to Paragraph (i) Payment. In addition to those requirements as stated in paragraph (i), the following are added and shall apply to the payment instructions.

(i) Payment

(a) The Contractor shall submit all invoices using the steps described at NSSC's Vendor Payment information web site at: <https://www.nssc.nasa.gov/vendorpayment>. Please contact the NSSC Customer Contact Center at 1-877-NSSC123 (1-877-677-2123) with any additional questions or comments.

(b) Improper invoices. The NSSC Payment Office will notify the contractor of any apparent error, defect, or impropriety in an invoices within seven calendar days of receipt by the NSSC Payment Office. Inquiries regarding requests for payment should be directed to the NSSC as specified in paragraph (a) of this section.

(c) In the event that amounts are withheld from payment in accordance with provisions of this award, a separate payment request for the amount withheld will be required before payment for that amount may be made.

(End of Addendum to FAR 52.212-4)

[End of Section]

SECTION H – SPECIAL CONTRACT REQUIREMENTS

H.1 LABORATORY ANALYSIS

A laboratory analysis shall be performed at the loading point of the conveyance for each shipment made under this contract. In the event laboratory facilities are not available to perform this analysis at the loading point, the contractor shall make arrangements to have the analysis performed at a location approved by the contracting officer. In any event, the analysis results shall be attached to the DD Form 250, or equivalent commercial document.

Note: The particulate test required by MIL-PRF-25508H and MIL-PRF-27401G, may be omitted provided a 10 micron nominal, 40 micron absolute, filter is used between the tanker fill manifold and each tanker.

Note: The in-line filtration noted in CGA G-10.1 2008 Edition, Section 6.10 is required, unless otherwise specified in Attachment 002, Statements of Work.
(End of Clause)

H.2 DEFENSE PRIORITIES AND ALLOCATIONS SYSTEM (DPAS)

A Defense Priorities and Allocations System (DPAS) rating will be included on specific delivery orders required to comply with FAR 52.211-14 DPAS requirements.
(End of Clause)

H.3 1852.232-77 LIMITATION OF FUNDS (FIXED-PRICE CONTRACT) (MAR 1989)

(a) Of the total price of items see delivery order through see delivery order, the sum of \$ see delivery order is presently available for payment and allotted to this contract. It is anticipated that from time to time additional funds will be allocated to the contract in accordance with the following schedule, until the total price of said items is allotted:

SCHEDULE FOR ALLOTMENT OF FUNDS	
Date	Amounts

(b) The Contractor agrees to perform or have performed work on the items specified in paragraph (a) of this clause up to the point at which, if this contract is terminated pursuant to the Termination for Convenience of the Government clause of this contract, the total amount payable by the Government (including amounts payable for subcontracts and settlement costs) pursuant to paragraphs (f) and (g) of that clause would, in the exercise of reasonable judgment by the Contractor, approximate the total amount at the time allotted to the contract. The Contractor is not obligated to continue performance of the work beyond that point. The Government is not obligated the contract, anything to the contrary in the Termination for Convenience of the Government clause notwithstanding.

(c)(1) It is contemplated that funds presently allotted to this contract will cover the work to be performed until see delivery order.

(2) If funds allotted are considered by the Contractor to be inadequate to cover the work to be performed until that date, or an agreed date substituted for it, the Contractor shall notify the

Contracting Officer in writing when within the next 60 days the work will reach a point at which, if the contract is terminated pursuant to the Termination for Convenience of the Government clause of this contract, the total amount payable by the Government (including amounts payable for subcontracts and settlement costs) pursuant to paragraphs (f) and (g) of that clause will approximate 75 percent of the total amount then allotted to the contract.

(3)(i) The notice shall state the estimate when the point referred to in paragraph (c)(2) of this clause will be reached and the estimated amount of additional funds required to continue performance to the date specified in paragraph (c)(1) of this clause, or an agreed date substituted for it.
 (ii) The Contractor shall, 60 days in advance of the date specified in paragraph (c)(1) of this clause, or an agreed date substituted for it, advise the Contracting Officer in writing as to the estimated amount of additional funds required for the timely performance of the contract for a further period as may be specified in the contract or otherwise agreed to by the parties.

(4) If, after the notification referred to in paragraph (c)(3)(ii) of this clause, additional funds are not allotted by the date specified in paragraph (c)(1) of this clause, or an agreed date substituted for it, the Contracting Officer shall, upon the Contractor's written request, terminate this contract on that date or on the date set forth in the request, whichever is later, pursuant to the Termination for Convenience of the Government clause.

(d) When additional funds are allotted from time to time for continued performance of the work under this contract, the parties shall agree on the applicable period of contract performance to be covered by these funds. The provisions of paragraphs (b) and (c) of this clause shall apply to these additional allotted funds and the substituted date pertaining to them, and the contract shall be modified accordingly.

(e) If, solely by reason of the Government's failure to allot additional funds in amounts sufficient for the timely performance of this contract, the Contractor incurs additional costs or is delayed in the performance of the work under this contract, and if additional funds are allotted, an equitable adjustment shall be made in the price or prices (including appropriate target, billing, and ceiling prices where applicable) of the items to be delivered, or in the time of delivery, or both.

(f) The Government may at any time before termination, and, with the consent of the Contractor, after notice of termination, allot additional funds for this contract.

(g) The provisions of this clause with respect to termination shall in no way be deemed to limit the rights of the Government under the default clause of this contract. The provisions of this Limitation of Funds clause are limited to the work on and allotment of funds for the items set forth in paragraph (a) of this clause. This clause shall become inoperative upon the allotment of funds for the total price of said work except for rights and obligations then existing under this clause.

(h) Nothing in this clause shall affect the right of the Government to terminate this contract pursuant to the Termination for Convenience of the Government clause of this contract.

(End of clause)

H.4 KSC 52.242-90 CONTROLS APPLICABLE TO CONTRACTOR'S ACTIVITIES (JUL 2018) (Applicable to CLINs 24, 25, 27, 28, and 29)

The Contractor shall comply with the publications listed and those checked as applicable below, and subsequent revision thereof, that the Contracting Officer has indicated as being incorporated in this contract by reference. These publications prescribe regulatory and procedural criteria which are applicable to this contract. The contractor shall promptly take corrective action upon notice of noncompliance from the Contracting Officer or his/her authorized representative(s) with any provision of the publications listed below.

The Contractor shall comply with the following publication, which can be found at <https://nodis3.gsfc.nasa.gov/displayDir.cfm?t=NPR&c=1600&s=4A> :
 NPR 1600.4A, Identity and Credential Management

The Contractor shall comply with the following publications and those publications checked as applicable below. These documents can be found at <http://procurement.ksc.nasa.gov/PPD/documents> :

KNPR 8715.2, Comprehensive Emergency Management Plan (CEMP)

KNPR 1600.1, KSC Security Procedural Requirements

KNPR 8500.1, KSC Environmental Management Requirements

KNPR 8715.3, KSC Safety Procedural Requirements

KNPD 1600.3, Use of Alcoholic Beverages on Kennedy Space Center (KSC) Property

Check if applicable:

- ☐ JKNPD 1810.1 KSC Occupational Medicine Program
- ☐ JKNPR 1860.1 KSC Ionizing Radiation Protection Program
- ☐ JKNPR 1860.2 KSC Nonionizing Radiation Protection Program
- ☐ JKNPR 1820.3 KSC Hearing Loss Prevention Program
- ☐ JKNPR 1820.4 KSC Respiratory Protection Program
- ☒ JKNPR 1840.19 KSC Industrial Hygiene Programs
- ☐ J45SWI40-201 45th Space Wing Instruction 40-201 Radiation Protection Program
- ☐ JKNPR 1840.1 KSC Hazard Communication Program
- ☐ JKNPR 1870.1 KSC Sanitation and Public Health Program
- ☐ JKNPR 2570.1 KSC Radio Frequency Spectrum Management Procedural Requirements
- ☐ JKNPR 4000.1 Supply and Equipment System Manual
- ☐ JKNPR 6000.1 KSC Transportation Support System Manual
- ☐ JKNPR 8715.7 KSC Construction Contractor Safety and Health Practices Procedural Requirements
- ☐ JKNPR 8830.1 Facility Asset Management Procedural Requirements

(End of Clause)

under a NASA prime contract with Caltech.

(End of Clause)

[End of Section]

SECTION I – CONTRACT CLAUSES

I.1. 52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS—COMMERCIAL ITEMS (JAN 2019)

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

(1) 52.203-19, Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements (Jan 2017) (section 743 of Division E, Title VII, of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L. 113-235) and its successor provisions in subsequent appropriations acts (and as extended in continuing resolutions)).

(2) 52.204-23, Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab and Other Covered Entities (Jul 2018) (Section 1634 of Pub. L. 115-91).

(3) 52.209-10, Prohibition on Contracting with Inverted Domestic Corporations (Nov 2015).

(4) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).

(5) 52.233-4, Applicable Law for Breach of Contract Claim (Oct 2004) (Public Laws 108-77 and 108-78 (19 U.S.C. 3805 note)).

(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 check as appropriate.]

X (1) 52.203-6, Restrictions on Subcontractor Sales to the Government (Sept 2006), with Alternate I (Oct 1995) (41 U.S.C. 4704 and 10 U.S.C. 2402).

X (2) 52.203-13, Contractor Code of Business Ethics and Conduct (Oct 2015) (41 U.S.C. 3509)).

(3) 52.203-15, Whistleblower Protections under the American Recovery and Reinvestment Act of 2009 (June 2010) (Section 1553 of Pub. L. 111-5). (Applies to contracts funded by the American Recovery and Reinvestment Act of 2009.)

X (4) 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards (Oct 2018) (Pub. L. 109-282) (31 U.S.C. 6101 note).

(5) [Reserved].

(6) 52.204-14, Service Contract Reporting Requirements (Oct 2016) (Pub. L. 111-117, section 743 of

Div. C).

(7) 52.204-15, Service Contract Reporting Requirements for Indefinite-Delivery Contracts (Oct 2016) (Pub. L. 111-117, section 743 of Div. C).

X (8) 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment. (Oct 2015) (31 U.S.C. 6101 note).

X (9) 52.209-9, Updates of Publicly Available Information Regarding Responsibility Matters (Oct 2018) (41 U.S.C. 2313).

(10) [Reserved].

(11)

(i) 52.219-3, Notice of HUBZone Set-Aside or Sole-Source Award (Nov 2011) (15 U.S.C. 657a).

(ii) Alternate I (Nov 2011) of 52.219-3.

(12)

(i) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (Oct 2014) (if the offeror elects to waive the preference, it shall so indicate in its offer) (15 U.S.C. 657a).

(ii) Alternate I (Jan 2011) of 52.219-4.

(13) [Reserved]

(14)

(i) 52.219-6, Notice of Total Small Business Set-Aside (Nov 2011) (15 U.S.C. 644).

(ii) Alternate I (Nov 2011).

(iii) Alternate II (Nov 2011).

(15)

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

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

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

X (16) 52.219-8, Utilization of Small Business Concerns (Oct 2018) (15 U.S.C. 637(d)(2) and (3)).

(17)

(i) 52.219-9, Small Business Subcontracting Plan (Aug 2018) (15 U.S.C. 637(d)(4))

(ii) Alternate I (Jan 2017) of 52.219-9.

- (iii) Alternate II (Nov 2016) of 52.219-9.
- (iv) Alternate III (Nov 2016) of 52.219-9.
- (v) Alternate IV (Aug 2018) of 52.219-9
- (18) 52.219-13, Notice of Set-Aside of Orders (Nov 2011) (15 U.S.C. 644(r)).
- (19) 52.219-14, Limitations on Subcontracting (Jan 2017) (15 U.S.C.637(a)(14)).
- (20) 52.219-16, Liquidated Damages-Subcontracting Plan (Jan 1999) (15 U.S.C. 637(d)(4)(F)(i)).
- (21) 52.219-27, Notice of Service-Disabled Veteran-Owned Small Business Set-Aside (Nov 2011) (15 U.S.C. 657f).
- X (22) 52.219-28, Post Award Small Business Program Rerepresentation (Jul 2013) (15 U.S.C. 632(a)(2)).
- (23) 52.219-29, Notice of Set-Aside for, or Sole Source Award to, Economically Disadvantaged Women-Owned Small Business Concerns (Dec 2015) (15 U.S.C. 637(m)).
- (24) 52.219-30, Notice of Set-Aside for, or Sole Source Award to, Women-Owned Small Business Concerns Eligible Under the Women-Owned Small Business Program (Dec2015) (15 U.S.C. 637(m)).
- X (25) 52.222-3, Convict Labor (June 2003) (E.O.11755).
- X (26) 52.222-19, Child Labor-Cooperation with Authorities and Remedies (Jan 2018) (E.O.13126).
- X (27) 52.222-21, Prohibition of Segregated Facilities (Apr 2015).
- (28)
- X (i) 52.222-26, Equal Opportunity (Sept 2016) (E.O.11246).
- (ii) Alternate I (Feb 1999) of 52.222-26.
- (29)
- X (i) 52.222-35, Equal Opportunity for Veterans (Oct 2015) (38 U.S.C. 4212).
- (i) Alternate I (July 2014) of 52.222-35.
- (30)
- X (i) 52.222-36, Equal Opportunity for Workers with Disabilities (Jul 2014) (29 U.S.C.793).
- (ii) Alternate I (July 2014) of 52.222-36.

X(31) 52.222-37, Employment Reports on Veterans (Feb 2016) (38 U.S.C. 4212).

X(32) 52.222-40, Notification of Employee Rights Under the National Labor Relations Act (Dec 2010) (E.O. 13496).

(33)

X(i) 52.222-50, Combating Trafficking in Persons (Jan 2019) (22 U.S.C. chapter 78 and E.O. 13627).

(ii) Alternate I (Mar 2015) of 52.222-50 (22 U.S.C. chapter 78 and E.O. 13627).

X(34) 52.222-54, Employment Eligibility Verification (Oct 2015). (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.)

(35)

(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)). (Not applicable to the acquisition of commercially available off-the-shelf items.)

(ii) Alternate I (May 2008) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)). (Not applicable to the acquisition of commercially available off-the-shelf items.)

(36) 52.223-11, Ozone-Depleting Substances and High Global Warming Potential Hydrofluorocarbons (Jun 2016) (E.O. 13693).

(37) 52.223-12, Maintenance, Service, Repair, or Disposal of Refrigeration Equipment and Air Conditioners (Jun2016) (E.O. 13693).

(38)

(i) 52.223-13, Acquisition of EPEAT®-Registered Imaging Equipment (Jun 2014) (E.O.s 13423 and 13514).

(ii) Alternate I (Oct 2015) of 52.223-13.

(39)

(i) 52.223-14, Acquisition of EPEAT®-Registered Televisions (Jun 2014) (E.O.s 13423 and 13514).

(ii) Alternate I (Jun2014) of 52.223-14.

(40) 52.223-15, Energy Efficiency in Energy-Consuming Products (Dec 2007) (42 U.S.C. 8259b).

(41)

(i) 52.223-16, Acquisition of EPEAT®-Registered Personal Computer Products (Oct 2015) (E.O.s 13423 and 13514).

(ii) Alternate I (Jun 2014) of 52.223-16.

X (42) 52.223-18, Encouraging Contractor Policies to Ban Text Messaging While Driving (Aug 2011) (E.O. 13513).

(43) 52.223-20, Aerosols (Jun 2016) (E.O. 13693).

(44) 52.223-21, Foams (Jun2016) (E.O. 13693).

(45)

(i) 52.224-3 Privacy Training (Jan2017) (5 U.S.C. 552 a).

(ii) Alternate I (Jan 2017) of 52.224-3.

X (46) 52.225-1, Buy American-Supplies (May 2014) (41 U.S.C.chapter 83).

(47)

(i) 52.225-3, Buy American-Free Trade Agreements-Israeli Trade Act (May 2014) (41 U.S.C. chapter 83, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, 19 U.S.C. 3805 note, 19 U.S.C. 4001 note, Pub. L. 103-182, 108-77, 108-78, 108-286, 108-302, 109-53, 109-169, 109-283, 110-138, 112-41, 112-42, and 112-43.

(ii) Alternate I (May 2014) of 52.225-3.

(iii) Alternate II (May 2014) of 52.225-3.

(iv) Alternate III (May 2014) of 52.225-3.

(48) 52.225-5, Trade Agreements (Aug 2016) (19 U.S.C.2501, et seq., 19 U.S.C. 3301 note).

X (49) 52.225-13, Restrictions on Certain Foreign Purchases (June 2008) (E.O.'s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).

(50) 52.225-26, Contractors Performing Private Security Functions Outside the United States (Oct 2016) (Section 862, as amended, of the National Defense Authorization Act for Fiscal Year 2008; 10 U.S.C. 2302 Note).

(51) 52.226-4, Notice of Disaster or Emergency Area Set-Aside (Nov2007) (42 U.S.C. 5150).

(52) 52.226-5, Restrictions on Subcontracting Outside Disaster or Emergency Area (Nov2007) (42 U.S.C. 5150).

(53) 52.232-29, Terms for Financing of Purchases of Commercial Items (Feb 2002) (41 U.S.C.4505, 10 U.S.C.2307(f)).

(54) 52.232-30, Installment Payments for Commercial Items (Jan2017) (41 U.S.C.4505, 10 U.S.C.2307(f)).

X(55) 52.232-33, Payment by Electronic Funds Transfer-System for Award Management (Oct2018) (31 U.S.C. 3332).

(56) 52.232-34, Payment by Electronic Funds Transfer-Other than System for Award Management (Jul 2013) (31 U.S.C.3332).

(57) 52.232-36, Payment by Third Party (May 2014) (31 U.S.C.3332).

(58) 52.239-1, Privacy or Security Safeguards (Aug 1996) (5 U.S.C. 552a).

(59) 52.242-5, Payments to Small Business Subcontractors (Jan 2017) (15 U.S.C. 637(d)(12)).

(60)

(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.

(iii) Alternate II (Feb 2006) 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 check as appropriate.]

(1) 52.222-17, Nondisplacement of Qualified Workers (May 2014)(E.O. 13495).

(2) 52.222-41, Service Contract Labor Standards (Aug 2018) (41 U.S.C. chapter 67).

(3) 52.222-42, Statement of Equivalent Rates for Federal Hires (May 2014) (29 U.S.C. 206 and 41 U.S.C. chapter 67).

(4) 52.222-43, Fair Labor Standards Act and Service Contract Labor Standards-Price Adjustment (Multiple Year and Option Contracts) (Aug 2014) (29 U.S.C. 206 and 41 U.S.C. chapter 67).

(5) 52.222-44, Fair Labor Standards Act and Service Contract Labor Standards-Price Adjustment (May 2014) (29 U.S.C.206 and 41 U.S.C.chapter 67).

(6) 52.222-51, Exemption from Application of the Service Contract Labor Standards to Contracts for Maintenance, Calibration, or Repair of Certain Equipment-Requirements (May 2014) (41 U.S.C.chapter 67).

(7) 52.222-53, Exemption from Application of the Service Contract Labor Standards to Contracts for Certain Services-Requirements (May 2014) (41 U.S.C.chapter 67).

(8) 52.222-55, Minimum Wages Under Executive Order 13658 (Dec 2015).

(9) 52.222-62, Paid Sick Leave Under Executive Order 13706 (Jan 2017) (E.O. 13706).

(10) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (May 2014) (42 U.S.C. 1792).

(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 this paragraph (e)(1) 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 (Oct 2015) (41 U.S.C. 3509).

(ii) 52.203-19, Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements (Jan 2017) (section 743 of Division E, Title VII, of the Consolidated and Further Continuing Appropriations Act, 2015 (Pub. L. 113-235) and its successor provisions in subsequent appropriations acts (and as extended in continuing resolutions)).

(iii) 52.204-23, Prohibition on Contracting for Hardware, Software, and Services Developed or Provided by Kaspersky Lab and Other Covered Entities (Jul 2018) (Section 1634 of Pub. L. 115-91).

(iv) 52.219-8, Utilization of Small Business Concerns (Oct 2018) (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 \$700,000 (\$1.5 million for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(v) 52.222-17, Nondisplacement of Qualified Workers (May2014) (E.O. 13495). Flow down required in accordance with paragraph (l) of FAR clause 52.222-17.

(vi) 52.222-21, Prohibition of Segregated Facilities (Apr 2015).

(vii) 52.222-26, Equal Opportunity (Sept 2015) (E.O.11246).

(viii) 52.222-35, Equal Opportunity for Veterans (Oct 2015) (38 U.S.C.4212).

(ix) 52.222-36, Equal Opportunity for Workers with Disabilities (Jul 2014) (29 U.S.C.793).

(x) 52.222-37, Employment Reports on Veterans (Feb 2016) (38 U.S.C.4212)

(xi) 52.222-40, Notification of Employee Rights Under the National Labor Relations Act (Dec 2010) (E.O. 13496). Flow down required in accordance with paragraph (f) of FAR clause 52.222-40.

(xii) 52.222-41, Service Contract Labor Standards (Aug 2014) (41 U.S.C. chapter 67).

(xiii)

(A) 52.222-50, Combating Trafficking in Persons (Jan 2019) (22 U.S.C. chapter 78 and E.O 13627).

(B) Alternate I (Mar2015) of 52.222-50(22 U.S.C. chapter 78 and E.O 13627).

(xiv) 52.222-51, Exemption from Application of the Service Contract Labor Standards to Contracts for Maintenance, Calibration, or Repair of Certain Equipment-Requirements (May2014) (41 U.S.C.chapter 67).

(xv) 52.222-53, Exemption from Application of the Service Contract Labor Standards to Contracts for Certain Services-Requirements (May 2014) (41 U.S.C.chapter 67).

(xvi) 52.222-54, Employment Eligibility Verification (Oct 2015) (E.O. 12989).

(xvii) 52.222-55, Minimum Wages Under Executive Order 13658 (Dec 2015).

(xviii) 52.222-62, Paid Sick Leave Under Executive Order 13706 (Jan 2017) (E.O. 13706).

(xix)

(A) 52.224-3, Privacy Training (Jan 2017) (5 U.S.C. 552a).

(B) Alternate I (Jan 2017) of 52.224-3.

(xx) 52.225-26, Contractors Performing Private Security Functions Outside the United States (Oct 2016)

(Section 862, as amended, of the National Defense Authorization Act for Fiscal Year 2008; 10 U.S.C. 2302 Note).

(xxi) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (May 2014) (42 U.S.C. 1792). Flow down required in accordance with paragraph (e) of FAR clause 52.226-6.

(xxii) 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.

(End of clause)

I.2 52.216-18 - ORDERING (OCT 1995)

(a) Any supplies and services to be furnished under this contract shall be ordered by issuance of delivery orders or task orders by the individuals or activities designated in the Schedule. Such orders may be issued from July 1, 2019 through June 30, 2024.

(b) All delivery orders or task orders are subject to the terms and conditions of this contract. In the event of conflict between a delivery order or task order and this contract, the contract shall control.

(c) If mailed, a delivery order or task order is considered "issued" when the Government deposits the order in the mail. Orders may be issued orally, by facsimile, or by electronic commerce methods only if authorized in the Schedule.

(End of clause)

I.3 52.216-19 ORDER LIMITATIONS. (OCT 1995)

(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than the quantity specified in B.2, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor-

(1) Any order for a single item in excess of amount of quantity specified in B.2;

(2) Any order for a combination of items in excess of quantity or amount specified in B.2; or

(3) A series of orders from the same ordering office within the period specified in the amount or quantity specified in B.2, together call for quantities exceeding the limitation in subparagraph (b)(1) or (2) of this section.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) of this section.

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 3 days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.
(End of clause)

I.4 52.216-21 REQUIREMENTS. (OCT 1995)

(a) This is a requirements contract for the supplies or services specified and effective for the period stated, in the Schedule. The quantities of supplies or services specified in the Schedule are estimates only and are not purchased by this contract. Except as this contract may otherwise provide, if the Government's requirements do not result in orders in the quantities described as "estimated" or "maximum" in the Schedule, that fact shall not constitute the basis for an equitable price adjustment.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. Subject to any limitations in the Order Limitations clause or elsewhere in this contract, the Contractor shall furnish to the Government all supplies or services specified in the Schedule and called for by orders issued in accordance with the Ordering clause. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(c) Except as this contract otherwise provides, the Government shall order from the Contractor all the supplies or services specified in the Schedule that are required to be purchased by the Government activity or activities specified in the Schedule.

(d) The Government is not required to purchase from the Contractor requirements in excess of any limit on total orders under this contract.

(e) If the Government urgently requires delivery of any quantity of an item before the earliest date that delivery may be specified under this contract, and if the Contractor will not accept an order providing for the accelerated delivery, the Government may acquire the urgently required goods or services from another source.

(f) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the Contractor shall not be required to make any deliveries under this contract 10 days after expiration of the period of performance specified in Section 1.

(End of clause)

I.5 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

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

<http://www.acquisition.gov/far/>

<https://www.hq.nasa.gov/office/procurement/regs/NFS.pdf>

The following contract clauses are hereby incorporated by reference:

52.203-3 Gratuities (Apr 1984)
 52.204-4 Printed or Copied Double-Sided On Postconsumer Fiber Content Paper (May 2011)
 52.204-13 System for Award Management Maintenance (Oct 2018)
 52.204-18 Commercial and Government Entity Code Maintenance (Jul 2016)
 52.212-4 Contract Terms and Conditions – Commercial Items (Oct 2018)
 52.225-13 Restrictions on Certain Foreign Purchases (Jun 2008)
 52.232-18 Availability of Funds (Apr 1984)
 1852.215-84 Ombudsman (Nov 2011)
 1852.237-73 Release of Sensitive Information (Jun 2005)

1.6 ADDENDUM TO 52.212-4 CONTRACT TERMS AND CONDITIONS—COMMERCIAL ITEMS (OCT 2018)

Addendum to Paragraph (f) Excusable Delays, (h) Patent Indemnity, and (w) Warranty. The following is added and shall apply to this contract.

(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. "Excusable delays" shall also include any accident, explosion, governmental law, ordinance, rule or regulation, whether valid or invalid, extraordinary failure of equipment or apparatus, inability to obtain electricity or other type of energy, feedstock, raw or finished material from normal sources of supply, labor, equipment or transportation, or any similar or different contingency beyond its reasonable control which would prevent or delay performance or make performance commercially impracticable whether or not the contingency is of the same class as those enumerated above, it being expressly agreed that such enumeration is non-exclusive. In the event any such contingency affects only a part of Contractor's capability to produce and/or deliver Product, Contractor will allocate production and/or deliveries among the requirements of all its affected customers and Contractor's own requirements in a fair and reasonable manner.

(h) Patent Indemnity, is hereby deleted in its entirety as not relevant to this Contract.

(o) Warranty, is hereby deleted in its entirety and replaced with the following:

(o) *Warranty.* The items delivered hereunder will meet the specifications defined in Section B.2 – Schedule of Supplies in Attachment 001 – Additional Terms and Conditions ("Specifications"). The Government may reject any item which does not meet the specifications and no charge will be made for the item so rejected. No claim of any kind with respect to the conformance of items to the foregoing specifications, whether or not based on negligence, warranty, strict liability or any other theory of law, will be greater than the price of the quantity of nonconforming item(s) in respect to which such claim is made. The foregoing constitutes the Government's exclusive remedy and the Contractor's sole obligation with respect to any such claim for not meeting the specifications. THERE

ARE NO EXPRESS WARRANTIES BY CONTRACTOR OTHER THAN THOSE SPECIFIED IN THIS SECTION 52.212-4(o). NO WARRANTIES BY CONTRACTOR (OTHER THAN WARRANTY OF TITLE AS PROVIDED IN THE UNIFORM COMMERCIAL CODE) WILL BE IMPLIED OR OTHERWISE CREATED UNDER THE UNIFORM COMMERCIAL CODE INCLUDING WARRANTY OF MERCHANTABILITY AND WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.” This limited remedies section for failure to meet the expressed warrantee stated herein shall have no application to or impact on the Government’s remedies under paragraph (m) Termination for cause of this Section

[End of Section]

SECTION J – LIST OF ATTACHMENTS**J.1 LIST OF ATTACHMENTS**

Attachment	Title	Date	Pages
001	Clauses and Provisions	June 26, 2019	31
002	Statements of Work	June 26, 2019	5
003	Economic Price Adjustment Clause	June 26, 2019	5
004	Capability Form	June 26, 2019	3

ATTACHMENT 002 – STATEMENTS OF WORK

Statement of Work: Glenn Research Center (GRC), LO2, CLIN 022

- (a) **Delivery:** Delivery and acceptance of product will normally be made Monday through Friday, 7:00 AM to 10:00 PM EST/EDT at the GRC Lewis Field Cleveland location. Under unusual circumstances, the Contractor agrees to deliver product 24 hours a day, 7 days a week, including holidays.
- (b) **Clearance Procedures:** The badging point of contact will ensure the drivers are issued temporary badges for admission onto GRC.
- (c) **Seals:** GRC requires the tanker to be sealed to prevent tampering; however, a serialized seal is not required.
- (d) **Quantification of Product Delivered:** Contractor shall utilize certified scales at the Contractor's facility to determine quantity of product delivered. For each delivery, the Contractor shall also utilize the scales on GRC or PBS. Quantity delivered to each tank shall be annotated on the DD250 or equivalent and shall be provided in gallons.
- (e) **Notice for Delivery:** GRC will provide a minimum of 48 hours' notice before delivery of product. Contractor will be notified at least 30 days in advance of planned high-use testing. Real-time results of testing will require short notice changes to delivery schedule.
- (f) **GRC Responsibility during Delivery:** GRC personnel typically do not have to be present to operate GRC equipment during the delivery of liquid nitrogen. However, GRC personnel must be present to operate GRC equipment during the delivery of liquid oxygen.
- (g) **Receiving Storage:** Current facility storage containers in use at GRC include those, which are listed below. However, the Government reserves the right to add, withdraw, change, or substitute receiving containers at any time during the life of the contract. Additionally, there will be instances where product delivery will be made directly into Government mobile tankers, at either the Cleveland or Sandusky, Ohio locations.

Facility	Tank Designation	Capacity (Gallons)	MAWP (psi)	Pressure Regulator Setting (psi) (Fill Pressure)
5	N-55	3,000	250	120
5	N-72	13,000	89	35
16	N-14	15,000	250	25
16	N-15	15,000	250	25
16	N-52	2,000	175	-
49	N-18	6,000	250	75

ATTACHMENT 002 – STATEMENTS OF WORK

55	N-75	13,000	89	35
77	N-19	9,000	175	23
125	N-90	3,000	250	40
125	N-13	900	250	40
150	N-21	3,000	250	75
301	N-61	56,000	50	35
302	N-57	1,500	250	150
402	N-67	6,000	250	120
Mobile	N-26	3,600	40	38
Mobile	N-27	3,600	40	35
Mobile	N-28	3,600	42	38
Mobile	N-157	3,500	25	22
3211 (ISP)	V-101 (LO2)	12,000	250	200
Mobile	O-03 (LO2)	4,000	66	60 (RV setting)
Mobile	O-10 (LO2)	3,600	40	35 (RV setting)
SEC TVac	N-80 (V-22-03)	28,000	150	-
SEC TVac	N-92 (V-22-04)	28,000	165	-

- (h) Fill Point Fittings: The fill point fittings are 1.5" CGA fittings (NI-150 and OX-150).
- (i) GRC points of contact and specific fill instructions will be specified on delivery orders.
- (j) Contractor shall return completed DD250 or equivalent forms within 20 business days.

ATTACHMENT 002 – STATEMENTS OF WORK

Statement of Work: Kennedy Space Center/Cape Canaveral Air Force Station (KSC/CCAFS), LO2 Type II Grade A, CLIN 024/025/027

- (a) **Delivery:** Delivery and acceptance of product will normally be made Monday through Friday, 5:30 AM to 4:30 PM EST/EDT. Under unusual circumstances, the Contractor agrees to deliver product 24 hours a day, 7 days a week, including holidays.
- (b) **Clearance Procedures:** All personnel entering KSC/CCAFS must be badged for access in accordance with the Personnel Identity Verification (PIV) requirements referenced in Attachment 001, Additional Terms and Conditions, Section L.3.
- (c) **Seals:** KSC/CCAFS requires the tanker to be sealed to prevent tampering; however, a serialized seal is not required.
- (d) **Quantification of Product Delivered:** KSC/CCAFS will accept certified scale measurements from the contractor source.
- (e) **Notice for Delivery:** KSC/CCAFS will provide a minimum of 3 days' notice before delivery of product. Orders of five or more tankers will normally provide a minimum of 7 days' notice.
- (f) **KSC/CCAFS Responsibility during Delivery:** KSC/CCAFS personnel must be present and operate KSC/CCAFS equipment during the delivery of liquid oxygen.
- (g) **Waves of Tankers:** There are instances when the government requires multiple (two or more) tanker trailers delivered at the same time and then off-loaded simultaneously. A group of tanker trailers scheduled for delivery at the same time is referred to as a "wave" of tankers. In these instances, off-loading the wave of tankers simultaneously through a manifold provides significant benefits to the government. Alternately, there are impacts to the government when delivery times are staggered and waves are not achieved. When requested, the Contractor shall deliver the number of specified tankers for the wave at the same time to the appropriate delivery location at the specified time.
- (h) **Receiving Storage:** Current facility storage containers in use at KSC/CCAFS include those, which are listed below. However, the Government reserves the right to add, withdraw, change, or substitute receiving containers at any time during the life of the contract.

Location	Building	Capacity (Gallons)	MAWP (psi)	Tanker Trailer Off-loading Stations	Comment
KSC	K7-412	4,000	50	1	Mobile Tankers
CCAFS	SLC-37B	250,000	30	5	-
CCAFS	SLC-41	465,000	200	6	-
CCAFS	SLC-41	28,000	165	2	-

- (i) **Supplier Equipment Requirements:** Liquid oxygen tankers are required to have a minimum pressure off-load capability of 40 psig. Pump off-loading is not permissible.
- (j) **Fill Point Interfaces:** KSC/CCAFS will provide the 3" flexible hose to transfer from contractor tanker to receiving equipment.
Liquid Oxygen: 3" ACME Cryogenics, Female Nut, with 4.25-4 ACME threads at the end of the facility flex hose, which shall connect to the Tanker Liquid Fill/Withdrawal Connection.

ATTACHMENT 002 – STATEMENTS OF WORK

- (k) KSC points of contact will be listed on delivery orders.

Statement of Work: Kennedy Space Center/Cape Canaveral Air Force Station (KSC/CCAFS), SLS LO2, CLIN 028/029

- (a) LO2 shall be delivered to MIL-PRF-25508H except the Purity and Impurity values listed in Table X modified as follows:
- a. Purity, minimum: 99.85%
 - b. Impurities, maximum: 1500 ppm
- (b) Delivery: Due to the tight window required to fit in all deliveries the Government will coordinate deliveries, which may be 24 hours a day, 7 days a week EST/EDT during the launch campaign.
- (c) Clearance Procedures: All personnel entering KSC/CCAFS must be badged for access in accordance with the Personnel Identity Verification (PIV) requirements referenced in Attachment 001, Additional Terms and Conditions, Section L.3.
- (d) Seals: KSC/CCAFS requires the tanker to be sealed to prevent tampering; however, a serialized seal is not required.
- (e) Quantification of Product Delivered: KSC/CCAFS will accept certified scale measurements from the contractor source to determine quantity of product delivered.
- (f) Notice for Delivery: Orders of five or more tankers will normally provide a minimum of 7 days' notice. The Government will coordinate with the Contractor 30 days in advance of a planned SLS launch.
- (g) KSC/CCAFS Responsibility during Delivery: KSC/CCAFS personnel must be present and operate KSC/CCAFS equipment during the delivery of liquid oxygen.
- (h) Waves of Tankers: There are instances when the government requires multiple (two or more) tanker trailers delivered at essentially the same time and then off-loaded simultaneously. A group of tanker trailers scheduled for delivery at the same time is referred to as a "wave" of tankers. In these instances, off-loading the wave of tankers simultaneously through a manifold provides significant benefits to the government. Alternately, there are impacts to the government when delivery times are staggered and waves are not achieved. When requested, the Contractor shall simultaneously deliver the number of specified tankers for the wave to the appropriate delivery location at the specified time.
- (i) Receiving Storage: Current facility storage containers in use at KSC/CCAFS include those, which are listed below. However, the Government reserves the right to add, withdraw, change, or substitute receiving containers at any time during the life of the contract.

Location	Building	Capacity (Gallons)	Required minimum tanker pressure for off-load (psi)	Tanker Trailer Off-loading Stations	Comment
KSC	LC-39B	900,000	32	5	99.85% Purity

- (j) Supplier Equipment Requirements: Liquid oxygen tankers are required to have a minimum pressure off-load capability of 32 psig. Pump off-loading is not permissible.

ATTACHMENT 002 – STATEMENTS OF WORK

- (k) Fill Point Interfaces: KSC/CCAFS will provide the 3" flexible hose to transfer from contractor tanker to receiving equipment.

Liquid Oxygen: 3" ACME Cryogenics, Female Nut, with 4.25-4 ACME threads at the end of the facility flex hose, which shall connect to the Tanker Liquid Fill/Withdrawal Connection.

- (l) KSC points of contact will be listed on delivery orders.

ATTACHMENT 0003- ECONOMIC PRICE ADJUSTMENT CLAUSE

- (a) The CLIN prices shown in Section B.3 of Attachment 001 Contract Period Pricing shall be subject to semiannual price adjustments from the base period price. The base price for each CLIN will be adjusted, whether up or down, in accordance with the following formulae:

- (1) CLIN 022: GRC (Liquid Oxygen)

$$Price_{New} = Price_{Base} * [0.49 \frac{Pi_{New}}{Pi_{Base}} + 0.04 \frac{Fi_{New}}{Fi_{Base}} + 0.47]$$

Where:

Price New = Price and index average for the new contract period. Refer to paragraph (b) of this clause for a listing of all contract periods.

Price Base = Price and index average for Contract Period 1.

Pi New = Power index average for the new contract period utilizing the Producer Price Index for Industrial Electric Power Distribution, East North Central (ID: PCU221122221122433) as it appears in the PPI Detailed Report published by the United States Department of Labor, Bureau of Labor Statistics.

Pi Base = Power index average for the period of April 1, 2018, through March 31, 2019 utilizing the Producer Price Index for Industrial Electric Power Distribution, East North Central (ID: PCU221122221122433) as it appears in the PPI Detailed Report published by the United States Department of Labor, Bureau of Labor Statistics.

Fi New = Fuel index average for the new contract period utilizing the Producer Price Index for Petroleum Refineries (Diesel Fuel), (ID: PCU324110324110C2) as it appears in the PPI Detailed Report published by the United States Department of Labor, Bureau of Labor Statistics.

Fi Base = Fuel index average for the period of April 1, 2018, through March 31, 2019 utilizing the Producer Price Index for Petroleum Refineries (Diesel Fuel), (ID: PCU324110324110C2) as it appears in the PPI Detailed Report published by the United States Department of Labor, Bureau of Labor Statistics.

Note: Contract price adjustments for each subsequent six-month contract period following Contract Period 1 will be updated by contract modification at least one month prior to the start of the new contract period. The aggregate of the increases in any contract unit price made for the above CLINS under this clause shall not exceed 40% of the original contract unit price. There is no percentage limitation on the amount of decreases that may be made for the above CLINS.

(2) CLINs 024, 025, 027 - 029: KSC/CCAFS (Liquid Oxygen)

$$Price_{New} = Price_{Base} * [0.52 \frac{Pi_{New}}{Pi_{Base}} + 0.02 \frac{Fi_{New}}{Fi_{Base}} + 0.46]$$

Where:

Price New = Price and index average for the new contract period. Refer to paragraph (b) of this clause for a listing of all contract periods.

Price Base = Price and index average for Contract Period 1.

Pi New = Power index average for the new contract period utilizing the Producer Price Index for Industrial Electric Power Distribution, South Atlantic (ID: PCU221122221122435) as it appears in the PPI Detailed Report published by the United States Department of Labor, Bureau of Labor Statistics.

Pi Base = Power index average for the period of April 1, 2018, through March 31, 2019 utilizing the Producer Price Index for Industrial Electric Power Distribution, South Atlantic (ID: PCU221122221122435) as it appears in the PPI Detailed Report published by the United States Department of Labor, Bureau of Labor Statistics.

Fi New = Fuel index average for the new contract period utilizing the Producer Price Index for Petroleum Refineries (Diesel Fuel), (ID: PCU324110324110C2) as it appears in the PPI Detailed Report published by the United States Department of Labor, Bureau of Labor Statistics.

Fi Base = Fuel index average for the period of April 1, 2018, through March 31, 2019 utilizing the Producer Price Index for Petroleum Refineries (Diesel Fuel), (ID: PCU324110324110C2) as it appears in the PPI Detailed Report published by the United States Department of Labor, Bureau of Labor Statistics.

Note: Contract price adjustments for each subsequent six-month contract period following Contract Period 1 will be updated by contract modification at least one month prior to the start of the new contract period. The aggregate of the increases in any contract unit price made for the above CLINS under this clause shall not exceed 10% of the original contract unit price. There is no percentage limitation on the amount of decreases that may be made for the above CLINS.

(b) Table of Contract Periods and Index Average Periods

YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5	
Contract Period 1	Contract Period 2	Contract Period 3	Contract Period 4	Contract Period 5	Contract Period 6	Contract Period 7	Contract Period 8	Contract Period 9	Contract Period 10
07/01/19 thru 12/31/19	01/01/20 thru 06/30/20	07/01/20 thru 12/31/20	01/01/21 thru 06/30/21	07/01/21 thru 12/31/21	01/01/22 thru 06/30/22	07/01/22 thru 12/31/22	01/01/23 thru 06/30/23	07/01/23 thru 12/31/23	01/01/24 thru 06/30/24
Power and Fuel Index Period per Contract Period	04/2019 thru 09/2019	10/2019 thru 03/2020	04/2020 thru 09/2020	10/2020 thru 03/2021	04/2021 thru 09/2021	10/2021 thru 03/2022	04/2022 thru 09/2022	10/2022 thru 03/2023	04/2023 thru 09/2023

- (c) If an index is discontinued (incomplete data does not constitute discontinuation), then the index shall be less detailed until a continued index is obtained. For example, if the power index is discontinued the progression shall be as follows:

Industrial Electric Power Distribution East South Central (ID: PCU221122221122436).

2 Select one or more Products ?

22112222112243 Industrial electric power
221122221122431 New England
221122221122432 Middle Atlantic
221122221122433 East North Central
221122221122434 West North Central
221122221122435 South Atlantic
221122221122436 East South Central
221122221122437 West South Central
221122221122438 Mountain
221122221122439 Pacific

Industrial Electric Power Distribution (ID: PCU22112222112243).

2 Select one or more Products ?

221122221122426 East South Central
221122221122427 West South Central
221122221122428 Mountain
221122221122429 Pacific
22112222112243 Industrial electric power
221122221122431 New England
221122221122432 Middle Atlantic
221122221122433 East North Central
221122221122434 West North Central
221122221122435 South Atlantic
221122221122436 East South Central

Electric Power Distribution (ID: PCU221122221122).

2 Select one or more Products ?

- 221122221122 Electric power distribution
- 22112222112241 Residential electric power
- 221122221122411 New England
- 221122221122412 Middle Atlantic
- 221122221122413 East North Central
- 221122221122414 West North Central
- 221122221122415 South Atlantic
- 221122221122416 East South Central
- 221122221122417 West South Central
- 221122221122418 Mountain

Electric Power Transmission, Control, and Distribution (ID: PCU22112-22112).

1 Select an industry ? **2 Select one or more Products ?**

- 22111- Electric power generation
- 221110 Electric power generation
- 22112- Electric power transmission, control, and distribution
- 221121 Electric bulk power transmission and control
- 221122 Electric power distribution
- 2212-- Natural gas distribution
- 22121- Natural gas distribution
- 221210 Natural gas distribution
- 236211 New industrial building construction
- 236221 New warehouse building construction

- 22112-22112- Electric power transmission, control, and distribution

Electric Power Generation, Transmission, and Distribution (ID: PCU2211--2211--).

1 Select an industry ? **2 Select one or more Products ?**

- 213115 Support activities for nonmetallic minerals (except fuels) mining
- 221-- Utilities
- 2211-- Electric power generation, transmission, and distribution
- 22111- Electric power generation
- 221110 Electric power generation
- 22112- Electric power transmission, control, and distribution
- 221121 Electric bulk power transmission and control
- 221122 Electric power distribution
- 2212-- Natural gas distribution
- 22121- Natural gas distribution
- 221210 Natural gas distribution

- 2211--2211-- Electric power generation, transmission, and distribution

Utilities (ID: PCU221---221---).

1 Select an industry ? **2 Select one or more Products ?**

- 213115 Support activities for nonmetallic minerals (except fuels) mining
- 221-- Utilities
- 2211-- Electric power generation, transmission, and distribution
- 22111- Electric power generation
- 221110 Electric power generation
- 22112- Electric power transmission, control, and distribution
- 221121 Electric bulk power transmission and control
- 221122 Electric power distribution
- 2212-- Natural gas distribution
- 22121- Natural gas distribution
- 221210 Natural gas distribution

- 221---221--- Utilities

If all less detailed indices have been discontinued, then the index shall be mutually agreed upon by the Government and the contractor.

Example:

Utilizing CLIN GRC Formula, the EPA will be calculated as follows. The base unit price is fictitious, the indices are actual according to BLS data. The Base period for this calculation will be April 2017 – March 2018 and the resulting new unit price will be valid 01/01/2019 – 06/30/2019, which shall utilize the indices of April 2018 – September 2018.

$$Price_{New} = Price_{Base} * [0.49 \frac{Pi_{New}}{Pi_{Base}} + 0.04 \frac{Fi_{New}}{Fi_{Base}} + 0.47]$$

$$Price_{Base} = \frac{\$100}{ton}$$

$$Pi_{Base} = 302.9 \text{ (April 2017 – March 2018, PCU221122221122433)}$$

$$Fi_{Base} = 252.7 \text{ (April 2017 – March 2018, PCU324110324110C2)}$$

$$Pi_{New} = 309.1 \text{ (April 2018 – September 2018, PCU221122221122433)}$$

$$Fi_{New} = 316.7 \text{ (April 2018 – September 2018, PCU324110324110C2)}$$

$$Price_{New} = \frac{\$100}{ton} * [0.49 \frac{309.1}{302.9} + 0.04 \frac{316.7}{252.7} + 0.47]$$

$$Price_{New} = \frac{\$100}{ton} * [0.49(1.0205) + 0.04(1.2533) + 0.47]$$

$$Price_{New} = \frac{\$100}{ton} * [0.5 + 0.05 + 0.47]$$

$$Price_{New} = \frac{\$100}{ton} * 1.02$$

$$Price_{New} = \frac{\$102}{ton}$$

(End of clause)

ATTACHMENT 4 - CAPABILITY FORM

1. DATE 5/20/19	2. SOLICITATION NUMBER 80KSC019R0015	3. CONTRACT LINE ITEM NUMBER 003, 004, 022	4. PROPELLANT Oxygen
5. OFFEROR INFORMATION			
5A. OFFEROR NAME		5B. OFFEROR ADDRESS	
5C. OFFEROR PRIMARY CONTACT (Name, Email, Phone)		5D. OFFEROR ALTERNATE CONTACT (Name, Email, Phone)	
6. PRODUCTION FACILITY INFORMATION			
6A. PRIMARY PRODUCTION FACILITY (ADDRESS)		6B. PRODUCTION FACILITY CONTACT	
6C. MAXIMUM FIXED STORAGE (TONS)	6D. MAXIMUM DAILY PRODUCTION (TONS)	6E. MAXIMUM MONTHLY PRODUCTION (TONS)	
7. DISTRIBUTION INFORMATION			
7A. NUMBER OF TANKER TRAILERS	7B. AVERAGE TANKER TRAILER CAPACITY (TONS)	7C. AVERAGE NUMBER OF DRIVERS	
8. ALTERNATE PRODUCTION FACILITY INFORMATION			
8A. ALTERNATE PRODUCTION FACILITY (ADDRESS)		8B. ALTERNATE PRODUCTION FACILITY CONTACT	

Note 1: The offeror shall identify the primary production facility (i.e., manufacturing plant) that will produce and deliver liquid nitrogen and oxygen to meet contract line item number requirements. This facility shall be used to complete blocks 6C-E. This production facility shall be the shipping point used to determine any charges accrued due to the Government's inability to accept deliveries. The offeror may also identify any alternate facilities that could be used in performance of this contract. In addition, the production facility point of contact(s) will be used to place requests for shipments against Government authorized delivery orders (refer to Block 6B).

Note 2: Distribution assets listed under block 7 shall be available to meet maximum CLIN requirements and are not specific to either the primary or alternate facility.

ATTACHMENT 4 - CAPABILITY FORM

1. DATE	2. SOLICITATION NUMBER 80KSC019R0015	3. CONTRACT LINE ITEM NUMBER 003, 004, 022	4. PROPELLANT Oxygen
5. OFFEROR INFORMATION			
5A. OFFEROR NAME Praxair, Inc.		5B. OFFEROR ADDRESS Praxair, Inc. 10 Riverview Drive Danbury, CT 06810	
5C. OFFEROR PRIMARY CONTACT (Name, Email, Phone) Doreen Heal (b) (4)		5D. OFFEROR ALTERNATE CONTACT (Name, Email, Phone)	
6. PRODUCTION FACILITY INFORMATION			
6A. PRIMARY PRODUCTION FACILITY (ADDRESS) Praxair, Inc. (b) (4)		6B. PRODUCTION FACILITY CONTACT (b) (4)	
6C. MAXIMUM FIXED STORAGE (TONS)	6D. MAXIMUM DAILY PRODUCTION (TONS)	6E. MAXIMUM MONTHLY PRODUCTION (TONS)	
7. DISTRIBUTION INFORMATION			
7A. NUMBER OF TANKER TRAILERS	7B. AVERAGE TANKER TRAILER CAPACITY (TONS)	7C. AVERAGE NUMBER OF DRIVERS	
8. ALTERNATE PRODUCTION FACILITY INFORMATION			
8A. ALTERNATE PRODUCTION FACILITY (ADDRESS)		8B. ALTERNATE PRODUCTION FACILITY CONTACT (b) (4)	

Note 1: The offeror shall identify the primary production facility (i.e., manufacturing plant) that will produce and deliver liquid nitrogen and oxygen to meet contract line item number requirements. This facility shall be used to complete blocks 6C-E. This production facility shall be the shipping point used to determine any charges accrued due to the Government's inability to accept deliveries. The offeror may also identify any alternate facilities that could be used in performance of this contract. In addition, the production facility point of contact(s) will be used to place requests for shipments against Government authorized delivery orders (refer to Block 6B).

Note 2: Distribution assets listed under block 7 shall be available to meet maximum CLIN requirements and are not specific to either the primary or alternate facility.

ATTACHMENT 4 - CAPABILITY FORM

1. DATE	2. SOLICITATION NUMBER 80KSC019R0015	3. CONTRACT LINE ITEM NUMBER 003, 004, 022	4. PROPELLANT Oxygen
5. OFFEROR INFORMATION			
5A. OFFEROR NAME Praxair, Inc.		5B. OFFEROR ADDRESS Praxair, Inc. 10 Riverview Drive Danbury, CT 06810	
5C. OFFEROR PRIMARY CONTACT (Name, Email, Phone) Doreen Heal (b) (4)		5D. OFFEROR ALTERNATE CONTACT (Name, Email, Phone)	
6. PRODUCTION FACILITY INFORMATION			
6A. PRIMARY PRODUCTION FACILITY (ADDRESS) Praxair, Inc. (b) (4)		6B. PRODUCTION FACILITY CONTACT (b) (4)	
6C. MAXIMUM FIXED STORAGE (TONS)	6D. MAXIMUM DAILY PRODUCTION (TONS)	6E. MAXIMUM MONTHLY PRODUCTION (TONS)	
7. DISTRIBUTION INFORMATION			
7A. NUMBER OF TANKER TRAILERS	7B. AVERAGE TANKER TRAILER CAPACITY (TONS)	7C. AVERAGE NUMBER OF DRIVERS	
8. ALTERNATE PRODUCTION FACILITY INFORMATION			
8A. ALTERNATE PRODUCTION FACILITY (ADDRESS)		8B. ALTERNATE PRODUCTION FACILITY CONTACT (b) (4)	

Note 1: The offeror shall identify the primary production facility (i.e., manufacturing plant) that will produce and deliver liquid nitrogen and oxygen to meet contract line item number requirements. This facility shall be used to complete blocks 6C-E. This production facility shall be the shipping point used to determine any charges accrued due to the Government's inability to accept deliveries. The offeror may also identify any alternate facilities that could be used in performance of this contract. In addition, the production facility point of contact(s) will be used to place requests for shipments against Government authorized delivery orders (refer to Block 6B).

Note 2: Distribution assets listed under block 7 shall be available to meet maximum CLIN requirements and are not specific to either the primary or alternate facility.