

CUSTOMER CONTRACT REQUIREMENTS
NISAR L-Band Transmit/Receive Modules (TRM)
CUSTOMER CONTRACT 1563853

CUSTOMER CONTRACT REQUIREMENTS

The following customer contract requirements apply to this contract to the extent indicated below. If this contract is for the procurement of commercial items under a Government prime contract, as defined in FAR Part 2.101, see Section 3 below.

1. FAR Clauses The following contract clauses are incorporated by reference from the Federal Acquisition Regulation and apply to the extent indicated. In all of the following clauses, "Contractor" and "Offeror" mean Seller.

52.203-6 Restrictions on Subcontractor Sales to the Government Basic (JUL 1995), Alternate I (OCT 1995) . This clause applies only if this contract exceeds (i) \$100,000 if included in Buyer's customer RFP or customer contract issued before October 1, 2010 or (ii)\$150,000 is included in Buyer's customer RFP issued on or after October 1, 2010, or if the prime contract was issued prior to October 1, 2010 but was amended after October 1, 2010 to increase the Simplified Acquisition Threshold

52.203-6 Restrictions on Subcontractor Sales to the Government (SEP 2006). This clause applies only if this contract exceeds (i) \$100,000 if included in Buyer's customer RFP or customer contract issued before October 1, 2010 or (ii) \$150,000 if included in Buyer's customer RFP issued on or after October 1, 2010, or if the prime contract was issued prior to October 1, 2010 but was amended after October 1, 2010 to increase the Simplified Acquisition Threshold.

52.203-7 Anti-Kickback Procedures (OCT 2010). Buyer may withhold from sums owed Seller the amount of any kickback paid by Seller or its subcontractors at any tier if (a) the Contracting Officer so directs, or (b) the Contracting Officer has offset the amount of such kickback against money owed Buyer under the prime contract. This clause, excluding subparagraph (c)(1), applies only if this contract exceeds \$150,000.

52.203-12 Limitation on Payments to Influence Certain Federal Transactions (OCT 2010). This clause applies only if this contract exceeds \$150,000. Paragraph (g)(2) is modified to read as follows: "(g)(2) Seller will promptly submit any disclosure required (with written notice to Boeing) directly to the PCO for the prime contract. Boeing will identify the cognizant Government PCO at Seller's request. Each subcontractor certification will be retained in the subcontract file of the awarding contractor."

52.203-13 Contractor Code of Business Ethics and Conduct (APR 2010). This clause applies only if this contract is in excess of \$5,000,000 and has a period of performance of more than 120 days.

52.203-16 Preventing Personal Conflicts of Interest (DEC 2011). This clause applies to contacts that exceed \$150,000 where Seller's employees will perform acquisition functions closely associated with inherently governmental functions, as defined in paragraph (a) of the clause. The term "Contracting Officer" means "Buyer." In paragraph (a) (1) "Contractor" means "Seller." In paragraph (a)(2) "subcontractor" means "Seller" and "Contractor" means "Buyer" if Seller is a self-employed individual.

52.204-2 Security Requirements (AUG 1996). Changes clause means the changes clause of this contract. This clause applies only if access to classified material is required.

52.204-9 Personal Identity Verification of Contractor Personnel. (JAN 2011). This clause applies only if performance under this contract requires Seller to have routine physical access to a Federally-controlled facility and/or routine access to a Federally-controlled information system.

52.208-8 Required Sources for Helium and Helium Usage Data (APR 2002). This clause only applies if helium is required.

52.209-6 Protecting the Government's Interests When Subcontracting With Contractors Debarred, Suspended or Proposed

for Debarment (DEC 2010). Seller agrees it is not debarred, suspended, or proposed for debarment by the Federal Government. Seller shall disclose to Buyer, in writing, whether as of the time of award of this contract, Seller or its principals is or is not debarred, suspended, or proposed for debarment by the Federal Government. This clause does not apply to contracts where Seller is providing commercially available off-the shelf items.

52.211-5 Material Requirements (AUG 2000). Any notice will be given to Buyer rather than the Contracting Officer.

52.211-15 Defense Priority and Allocation Requirements (APR 2008). This clause is applicable if a priority rating is noted in this contract.

52.215-2 Audit and Records - Negotiation (OCT 2010). This clause applies only if this contract exceeds \$150,000 and (i) is cost-reimbursement, incentive, time-and-materials, labor-hour, or price-redeterminable type or any combination of these types; (ii) Seller was required to provide cost or pricing data, or (iii) Seller is required to furnish reports as discussed in paragraph (e) of the referenced clause. Notwithstanding the above, Buyer's rights to audit Seller are governed by the Financial Records and Audit article of the General Provisions incorporated in the Contract.

52.215-10 Price Reduction for Defective Certified Cost or Pricing Data (AUG 2011). This clause applies only if this contract exceeds the threshold set forth in FAR 15.403-4 and is not otherwise exempt. In subparagraph (3) of paragraph (a), insert "of this contract" after "price or cost." In Paragraph (c), "Contracting Officer" shall mean "Contracting Officer or Buyer." In Paragraphs (c)(1), (c)(1)(ii), and (c)(2)(i), "Contracting Officer" shall mean "Contracting Officer or Buyer." In Subparagraph (c)(2)(i)(A), delete "to the Contracting Officer." In Subparagraph (c)(2)(ii)(B), "Government" shall mean "Government or Buyer." In Paragraph (d), "United States" shall mean "United States or Buyer."

52.215-11 Price Reduction for Defective Certified Cost or Pricing Data -- Modifications (AUG 2011). This clause applies only if this contract exceeds the threshold set forth in FAR 15.403-4 and is not otherwise exempt. "Contracting Officer" shall mean "Contracting Officer or Buyer." In subparagraph (d)(2)(i)(A), delete "to the Contracting Officer." In subparagraph (d)(2)(ii)(B), "Government" means "Government" or "Buyer." In Paragraph (e), "United States" shall mean "United States or Buyer."

52.215-12 Subcontractor Certified Cost or Pricing Data (OCT 2010). This clause applies only if this contract exceeds the threshold set forth in FAR 15.403-4 and is not otherwise exempt. The certificate required by paragraph (b) of the referenced clause shall be modified as follows: delete "to the Contracting Officer or the Contracting Officer's representative" and substitute in lieu thereof "to The Boeing Company or The Boeing Company's representative (including data submitted, when applicable, to an authorized representative of the U.S. Government)."

52.215-13 Subcontractor Certified Cost or Pricing Data -- Modifications (OCT 2010). This clause applies only if this contract exceeds the threshold set forth in FAR 15.403-4 and is not otherwise exempt. The certificate required by paragraph (c) of the referenced clause shall be modified as follows: delete "to the Contracting Officer or the Contracting Officer's representative" and substitute in lieu thereof "to The Boeing Company or The Boeing Company's representative (including data submitted, when applicable, to an authorized representative of the U.S. Government)."

52.215-14 Integrity of Unit Prices (OCT 2010). This clause applies except for contracts at or below \$150,000; construction or architect-engineer services under FAR Part 36; utility services under FAR Part 41; services where supplies are not required; commercial items; and petroleum products.

52.215-15 Pension Adjustments and Asset Reversions (OCT 2010). This clause applies to this contract if it meets the requirements of FAR 15.408(g).

52.215-19 Notification of Ownership Changes (OCT 1997). This clause applies to this contract if it meets the requirements of FAR 15.408(k).

52.215-21 Requirement for Certified Cost or Pricing Data or Information Other Than Certified Cost and Pricing Data - Modifications (OCT 2010). This clause applies only if this contract exceeds the threshold set forth in FAR 15.403-4. The term "Contracting Officer" shall mean Buyer. Insert the following in lieu of paragraph (a)(2): "Buyer's audit rights to determine price reasonableness shall also apply to verify any request for an exception under this clause. For items priced using catalog or market prices,

or law or regulation, access does not extend to cost or profit information or other data relevant solely to the Contractor's determination of the prices to be offered in the catalog or marketplace."

52.219-8 Utilization of Small Business Concerns (JAN 2011).

52.219-9 Small-Business Subcontracting Plan (JAN 2011). This clause applies only if this contract exceeds \$650,000 and Seller is not a small business concern. Seller shall adopt a subcontracting plan that complies with the requirements of this clause. In addition, Seller shall submit to Buyer Form X31162, Small Business Subcontracting Plan Certificate of Compliance. In accordance with paragraph (d)(10)(iv), Seller agrees that it will submit the ISR and/or SSR using eSRS, and, in accordance with paragraph (d)(10)(vi), Seller agrees to provide the prime contract number, its own DUNS number, and the email address of Seller's official responsible for acknowledging or rejecting the ISRs, to its subcontractors with subcontracting plans. In accordance with paragraph (d)(10), the following information is provided: (1) the prime contract number is NNN12AA01C; (2) Buyer's DUNS number is _____, and (3) the email address of the Buyer's official responsible for acknowledging receipt of or rejecting ISR reports is (contact Buyer's Authorized Procurement Representative.)

52.222-1 Notice to the Government of Labor Disputes (FEB 1997). The terms "Contracting Officer" shall mean Buyer.

52.222-4 Contract Work Hours and Safety Standards Act-Overtime Compensation (JUL 2005). Buyer may withhold or recover from Seller the amount of any sums the Contracting Officer withholds or recovers from Buyer because of liabilities of Seller or its subcontractors under this clause.

52.222-21 Prohibition of Segregated Facilities (FEB 1999).

52.222-26 Equal Opportunity (MAR 2007).

52.222-35 Equal Opportunity for Veterans. (SEP 2010). This clause applies only if this contract is \$100,000 or more.

52.222-37 Employment Reports on Veterans (SEP 2010). This clause applies if this contract is \$100,000 or more.

52.222-40 Notification of Employee Rights Under the National Labor Relations Act. (DEC 2010).

52.222-41 Service Contract Act of 1965 (NOV 2007). This clause applies only if this contract is subject to the Act. Where applicable, Wage Determination(s) shall be attached to the purchase contract at the time of award, or furnished upon request.

52.222-50 Combating Trafficking in Persons (FEB 2009). In paragraph (d), the term "Contracting Officer" means Buyer, and in paragraph (e), the term "the Government" means Buyer.

52.222-54 Employment Eligibility Verification (JAN 2009).

This clause applies to all subcontracts that (1) are for (i) commercial or noncommercial services (except for commercial services that are part of the purchase of a COTS item, or an item that would be a COTS item, but for minor modifications performed by the COTS provider and are normally provided for that COTS item), or (ii) construction; (2) has a value of more than \$3,000; and (3) includes work performed in the United States.

52.223-2 Affirmative Procurement of Biobased Products Under Service and Construction Contracts (DEC 2007).

52.223-3 Hazardous Material Identification and Material Safety Data (JAN 1997). This clause applies only if Seller delivers hazardous material under this contract.

52.223-7 Notice of Radioactive Materials (JAN 1997). This clause applies only if this contract involves (i) radioactive material requiring specific licensing under the regulations issued pursuant to the Atomic Energy Act of 1954, as amended, as set forth in Title 10 of the Code of Federal Regulations, in effect on the date of this contract, or (ii) other radioactive material not requiring specific licensing in which the specific activity is greater than 0.002 microcuries per gram or the activity per item equals or exceeds 0.01 microcuries. "Contracting Officer" shall mean Buyer. In the blank in paragraph (a), insert "60 days."

52.223-11 Ozone Depleting Substances (MAY 2001).

52.223-15 Energy Efficiency In Energy-Consuming Products (DEC 2007).

52.223-18 Encouraging Contractor Policies To Ban Text Messaging While Driving (AUG 2011).

52.224-2 Privacy Act (APR 1984). This clause applies only if Seller is required to design, develop, or operate a system of records contemplated by this clause.

52.225-1 Buy American Act- Supplies (FEB 2009). This clause applies if the Work contains other than domestic components. The term "Contracting Officer" shall mean Buyer the first time it is used in paragraph (c).

52.225-8 Duty-Free Entry (OCT 2010). This clause applies only if this contract identifies supplies to be afforded duty-free entry or if foreign supplies in excess of \$15,000 may be imported into the customs territory of the United States. For the purposes of this clause, the blanks in paragraph (g)(3) are completed as follows: UNITED STATES GOVERNMENT, DEPARTMENT OF DEFENSE, Duty-free entry is claimed pursuant Section XXII, Chapter 98, Subchapter VIII, Item No. 9808.00.30 of the Harmonized Tariff Schedule of the United States. Upon arrival of shipment at port of entry, the importer or authorized agent will notify Commander, Defense Contract Management Area Operations (DCMAO, New York, 201 Varick Street, New York, New York, 10014-4811, Attention DCRN-NCT) for execution of Customs Forms 7501, 7501-A, or 7506 and required duty free entry certificates.

52.225-13 Restriction on Certain Foreign Purchases (JUN 2008).

52.227-1 Authorization and Consent (Dec 2007) Alternate I (APR 1984).

52.227-2 Notice and Assistance Regarding Patent and Copyright Infringement (DEC 2007). A copy of each notice sent to the Government shall be sent to Buyer.

52.227-10 Filing of Patent Applications - Classified Subject Matter (DEC 2007).

52.227-11 Patent Rights -- Ownership by the Contractor (DEC 2007). This clause applies only if this contract is for experimental, developmental, or research work and Seller is a small business firm or nonprofit organization. In this clause, "Contractor" means Contractor, references to the Government are not changed and the subcontractor has all rights and obligations of the Contractor in the clause.

52.227-11 Patent Rights - Ownership by the Contractor as modified by NASA FAR Supplement 1852.227-11 (DEC 2007). This clause applies only if this contract is for experimental, developmental, or research work and Seller is a small business concern or nonprofit organization.

52.227-14 Rights in Data--General (DEC 2007). This clause applies only if data, as defined in paragraph (a) of the clause, will be produced, furnished, or acquired under this contract.

52.227-14 Rights in Data--General Alternate II (DEC 2007). This clause applies only if data, as defined in paragraph (a) of the clause, will be produced, furnished, or acquired under this contract.

52.227-14 Rights in Data--General Alternate III (DEC 2007). This clause applies only if data, as defined in paragraph (a) of the clause, will be produced, furnished, or acquired under this contract.

52.227-14 Rights in Data--General Alternate IV (DEC 2007). This clause applies only if data, as defined in paragraph (a) of the clause, will be produced, furnished, or acquired under this contract.

52.227-16 Additional Data Requirements (JUN 1987). This clause applies only if this contract involves experimental, developmental, research, or demonstration work.

52.227-17 Rights in Data-Special Works (DEC 2007).

52.227-18 Rights in Data-Existing Works (DEC 2007).

52.227-19 Commercial Computer Software License (DEC 2007).

52.227-21 Technical Data Declaration, Revision, and Withholding of Payments-Major Systems (DEC 2007). The term "Contracting Officer" shall mean "Buyer." In paragraph (b) (2), the term "Government" shall mean "Buyer."

52.229-8 Taxes-Foreign Cost Reimbursement Contracts (MAR 1990).

52.230-6 Administration of Cost Accounting Standards (JUN 2010). Add "Buyer and the" before "CFAO" in paragraph (m). This clause applies if clause H001, H002, H004 or H007 is included in this contract.

52.244-6 Subcontracts for Commercial Items (DEC 2010). Clauses in paragraph (c) (1) are applicable to Seller for commercial items ordered by Buyer from Seller under this contract.

52.245-1 Government Property (APR 2012). This clause applies if Government property is acquired or furnished for contract performance. "Government" shall mean Government throughout except the first time it appears in paragraph (g)(1) when "Government" shall mean the Government or the Buyer.

52.247-63 Preference for U.S.-Flag Air Carriers (JUN 2003). This clause only applies if this contract involves international air transportation.

52.247-64 Preference for Privately Owned U.S.-Flag Commercial Vessels (FEB 2006). This clause does not apply if this contract is for the acquisition of commercial items unless (i) this contract is a contract or agreement for ocean transportation services; or a construction contract; or (ii) the supplies being transported are (a) items the Seller is reselling or distributing to the Government without adding value (generally, the Seller does not add value to the items when it subcontracts items for f.o.b. destination shipment); or (b) shipped in direct support of U.S. military (1) contingency operations; (2) exercises; or (3) forces deployed in connection with United Nations or North Atlantic Treaty Organization humanitarian or peacekeeping operations.

52.247-64 Preference for Privately Owned U.S.-Flag Commercial Vessels Alternate I (APR 2003). . In paragraph (C)(2) "20" and "30" are changed to 10 and 20 respectively.

2. NASA FAR Supplement Clauses NASA Contracts. The following contract clauses are incorporated by reference from the National Aeronautics and Space Administration Federal Acquisition Regulation Supplement and apply to the extent indicated. In all of the following clauses, "Contractor" means Seller.

1852.208-81 Restrictions on Printing and Duplicating (NOV 2004).

1852.219-74 Use of Rural Area Small Businesses (SEP 1990). This clause applies only if this contract offers subcontracting possibilities.

1852.219-75 Small Business Subcontracting Reporting (MAY 1999). This clause applies if FAR 52.219-9 is included in this contract.

1852.223-71 Frequency Authorization (DEC 1988). This clause applies only if this contract requires the development, production, construction, testing or operation of a device for which a radio frequency authorization is required.

1852.223-74 Drug-and Alcohol-Free Workforce (MAR 1996). This clause applies to Seller if work is performed by an employee in a sensitive position, except if this contract is for commercial items.

1852.223-75 Major Breach of Safety or Security (FEB 2002). This clause applies if this contract exceeds \$500,000. "Government" shall mean "Government or Buyer". "Contracting Officer" shall mean "Buyer".

1852.225-70 Export Licenses (FEB 2000).

1852.225-70 Export Licenses Alternate I (FEB 2000).

1852.227-11 Patent Rights--Retention by the Contractor (Short Form) .

1852.227-70 New Technology (MAY 2002). This clause only applies if this Contract is for experimental, developmental, or research work and Seller is other than a small business firm or nonprofit organization..

1852.227-85 Invention Reporting and Rights -- Foreign (APR 1986). This clause only applies if this Contract is for experimental, developmental, or research work.

1852.228-72 Cross-Waiver of Liability for Space Shuttle Services (SEP 1993).

1852.228-76 Cross-Waiver of Liability for Space Station Activities (DEC 1994).

1852.228-78 Cross-Waiver of Liability for NASA Expendable Launch Vehicle (ELV) Launches (SEP 1993).

1852.244-70 Geographic Participation in the Aerospace Program (APR 1985). This clause applies only if this contract is for \$100,000 or more.

1852.245-72 Liability for Government Property Furnished for Repair or Other Services (JAN 2011).

3. Commercial Items If goods or services being procured under this contract are commercial items and Clause H203 is set forth in the purchase order, the foregoing Government clauses in Sections 1 is deleted and the following FAR clauses are inserted in lieu thereof:

52.203-13 Contractor Code of Business Ethics and Conduct (APR 2010). This clause applies only if this contract is in excess of \$5,000,000 and has a period of performance of more than 120 days.

52.203-15 Whistleblower Protections Under the American Recovery and Reinvestment Act of 2009 (JUN 2010). This clause applies if this contract is funded in whole or in part with Recovery Act funds.

52.209-6 Protecting the Government's Interests When Subcontracting With Contractors Debarred, Suspended or Proposed for Debarment (DEC 2010). Seller agrees it is not debarred, suspended, or proposed for debarment by the Federal Government. Seller shall disclose to Buyer, in writing, whether as of the time of award of this contract, Seller or its principals is or is not debarred, suspended, or proposed for debarment by the Federal Government. This clause does not apply to contracts where Seller is providing commercially available off-the shelf items.

52.219-8 Utilization of Small Business Concerns (DEC 2010). Required in solicitations and contracts exceeding the simplified acquisition threshold.

52.222-26 Equal Opportunity (MAR 2007).

52.222-35 Equal Opportunity for Veterans. (SEP 2010). This clause applies only if this contract is \$100,000 or more.

52.222-36 Affirmative Action For Workers With Disabilities (OCT 2010). This clause applies only if this contract exceeds

\$15,000.

52.222-40 Notification of Employee Rights Under the National Labor Relations Act. (DEC 2010).

52.222-50 Combating Trafficking in Persons (FEB 2009). In paragraph (d), the term "Contracting Officer" means Buyer, and in paragraph (e), the term "the Government" means Buyer.

52.222-54 Employment Eligibility Verification (JAN 2009).

This clause applies to all subcontracts that (1) are for (i) commercial or noncommercial services (except for commercial services that are part of the purchase of a COTS item, or an item that would be a COTS item, but for minor modifications performed by the COTS provider and are normally provided for that COTS item), or (ii) construction; (2) has a value of more than \$3,000; and (3) includes work performed in the United States.

52.244-6 Subcontracts for Commercial Items (DEC 2010). Clauses in paragraph (c) (1) are applicable to Seller for commercial items ordered by Buyer from Seller under this contract.

52.245-1 Government Property (APR 2012). This clause applies if Government property is acquired or furnished for contract performance. "Government" shall mean Government throughout except the first time it appears in paragraph (g)(1) when "Government" shall mean the Government or the Buyer.

52.247-64 Preference for Privately Owned U.S.-Flag Commercial Vessels (FEB 2006). This clause does not apply if this contract is for the acquisition of commercial items unless (i) this contract is a contract or agreement for ocean transportation services; or a construction contract; or (ii) the supplies being transported are (a) items the Seller is reselling or distributing to the Government without adding value (generally, the Seller does not add value to the items when it subcontracts items for f.o.b. destination shipment); or (b) shipped in direct support of U.S. military (1) contingency operations; (2) exercises; or (3) forces deployed in connection with United Nations or North Atlantic Treaty Organization humanitarian or peacekeeping operations.

4. Prime Contract Special Provisions The following prime contract special provisions apply to this purchase order

1. Compliance with The Americans With Disabilities Act

Work performed outside the United States is exempt from the requirements of this clause.

- (a) Seller agrees to comply with the Americans with Disabilities Act (42 U.S.C. 12101, et. seq.) and all implementing regulations.
- (b) Seller agrees that it will be responsible to the Government, Buyer's customer, and Buyer for, and will indemnify and hold harmless the Government, Buyer's Customer, and Buyer, its trustees, officers, and employees from any loss, cost, damage, expense or liability or suit therefore, by reason of actual or alleged property damage or personal injury of whatever kind or character, arising out of, or in connection with performance of the requirements of Paragraph (a) above by Seller or any of its lower-tier subcontracts, however the same may be caused, excepting only such loss, cost, damage, expense or liability attributable to the sole or contributory active negligence of the Government, Buyer's customer, and Buyer, its trustees, officers, or employees.
- (c) Seller agrees to insert this provision, including this Paragraph (c), in all lower-tier subcontracts and purchase orders hereunder.

2. Electrical Equipment Acquisition

This clause applies if the Contract involves the acquisition of off-the-shelf electrical equipment for delivery to or use by Buyer or Buyer's customer.

The electrical equipment being provided by Seller under this Contract shall be listed by Underwriters Laboratory, Factory Mutual Insurance Association, Canadian Standards Association, or similar organization of recognized standing. In the event that the equipment does not carry an appropriate approval, the individual components making up the item must be listed. Proof of listing shall be provided with delivery of the equipment in the form of accompanying data or labels. Any item not conforming to these requirements may be returned to Seller at Seller's expense. Seller agrees to require lower-tier subcontractors, if any, which supply electrical equipment for delivery to or

use by Buyer or Buyer's customer, or its designees to comply with this clause.

3. Equal Opportunity

Seller and lower-tier subcontractors shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

4. Government-Furnished Computer Software and Related Technical Data

This clause applies if Government-Furnished Computer Software and/or Related Technical Data will be furnished to Seller or a lower-tier subcontractor.

(a) *Definitions.* As used in this clause—

“Government-furnished computer software” or “GFCS” means computer software: (1) in the possession of, or directly acquired by, the Government whereby the Government has title or Government purpose license rights thereto; and (2) subsequently furnished to Seller for performance of the Contract.

“Computer software,” “data” and “technical data” have the meaning provided in the Federal Acquisition Regulation (FAR) Subpart 2.1- “Definitions,” and the “Rights in Data—General” clause (FAR 52.227-14).

(b) The Government through Buyer will furnish to Seller the GFCS described in this Contract or in writing by the Government through Buyer. The Government through Buyer will furnish related technical data needed for the intended use of the GFCS.

(c) Use of GFCS and related technical data. Seller shall use the GFCS and related technical data, and any modified or enhanced versions thereof, only for performing work under this Contract unless otherwise provided for in this Contract or approved by Buyer.

- (1) Seller shall not, without the express written permission of the Contracting Officer through Buyer, reproduce, distribute copies, perform publicly, display publicly, release, or disclose the GFCS or related technical data to any person except for the performance of work under this Contract.
- (2) Seller shall not modify or enhance the GFCS except as required pursuant to the performance of work under this Contract. If the GFCS is modified or enhanced pursuant to this Contract, Seller shall provide to Buyer the complete source code, if any, of the modified or enhanced GFCS.
- (3) Allocation of rights associated with any GFCS or related technical data modified or enhanced under this Contract shall be defined by the FAR “Rights in Data-General” clause.
- (4) Seller may provide the GFCS, and any modified or enhanced versions thereof, to lower-tier subcontractors as required for the performance of work under this Contract. Before release of the GFCS, and any modified or enhanced versions thereof, to such Subcontractors (at any tier), Seller shall insert, or require the insertion of, this clause, including this Paragraph (c)(4), suitably modified to identify the parties as follows: references to the Government are not changed, and in all references to the Subcontractor or Seller, “lower-tier subcontractor” is substituted for the Subcontractor so that the lower-tier subcontractor has all rights and obligations of the Subcontractor in the clause.

(d) Buyer may by written notice, at any time—

- (1) Increase or decrease the amount of GFCS under this Contract;
- (2) Substitute other GFCS for the GFCS previously furnished, to be furnished, or to be acquired by the Seller for Buyer under this Contract;

- (3) Withdraw authority to use the GFCS or related technical data; or
- (4) Instruct Seller to return or dispose of the GFCS and related technical data.
- (e) *Title to or license rights in GFCS.* The Government shall retain title to or license rights in all GFCS. Title to or license rights in GFCS shall not be affected by its incorporation into or attachment to any data not owned by or licensed to Buyer's customer or Buyer.
- (f) *Waiver of Claims and Indemnification.* Seller agrees to waive any and all claims against Buyer, Buyer's customer, and the Government, and shall indemnify and hold harmless the agents of the Government, Buyer's Customer, and Buyer, and their employees from every claim or liability, including attorney's fees, court costs, and expenses, arising out of, or in any way related to, the misuse or unauthorized modification, reproduction, release, performance, display, or disclosure of the GFCS and related technical data by Seller or by any person to whom the Seller has, without authorization, released or disclosed such GFCS or related technical data. Buyer, Buyer's Customer, and the Government make no warranty with respect to the serviceability and/or suitability of the GFCS for Contract performance. In addition, equitable adjustments shall be made in accordance with the procedures of the "Changes" clause in the event of a delivery of Government-furnished computer software to Seller in a condition not suitable for its intended use.

5. Handling, Protection, and Release of Restricted Information

- (a) Handling and Protection of Restricted Information
 - (1) Definition. "Restricted information," as used in this clause, means recorded information, regardless of form or the media on which it may be recorded, the use and dissemination of which is restricted, and includes:
 - (i) Limited rights data;
 - (ii) Restricted computer software;
 - (iii) Information incidental to Contract administration, such as financial, administrative, cost or pricing, or management information that embody trade secrets or are commercial or financial and confidential or privileged;
 - (iv) Information designated by the U.S. Government as Sensitive But Unclassified (SBU);
 - (v) Information that is marked JPL/Caltech Proprietary, Boeing Proprietary, Proposal Sensitive or Business Discreet;
 - (vi) Design information or guidance as may be embodied in or derived from computer-aided engineering, computer-aided design, analysis models, manufacturing models, drawings or translations of any of the foregoing, regardless of whether such information or guidance is marked or unmarked; and
 - (vii) Information obtained directly from Buyer or Buyer's Customer's electronic resources, such as computers, servers, networks, electronic libraries or document repositories, regardless of whether such information is marked or unmarked.
 - (2) Restrictions on use and disclosure of restricted information. With regard to any restricted information to which Seller is given access, by or on behalf of NASA Buyer's Customer, or Buyer, in performance of this Contract that is either marked with a restrictive legend indicating that use and disclosure of the information is restricted or is specifically identified in this Contract or in writing by Buyer as being subject to this clause, Seller agrees to:
 - (i) Use such restricted information only for the purposes of performing the services specified in this Contract;
 - (ii) Safeguard the restricted information from unauthorized use and disclosure;

- (iii) Allow access to the restricted information only to those employees and lower-tier subcontractors that need it to perform services under this Contract;
- (iv) Preclude access and disclosure of the restricted information to persons and entities outside of Seller' or its lower-tier subcontractor's organization(s);
- (v) Inform employees who may require access to the restricted information about obligations to use it only to perform the services specified in this Contract and to safeguard it from unauthorized use and disclosure;
- (vi) Require that each employee that has access to restricted information complies with the obligations regarding restricted information included in this clause;
- (vii) Return or dispose of the restricted information, as Buyer may direct, when the restricted information is no longer needed for performance of work under this Contract; and
- (viii) Maintain any restrictive markings on sensitive information coming into its possession and on any copies thereof.

(3) Exceptions

- (i) The obligations and prohibitions of Paragraph 5. (a)(2) do not apply to restricted information which Seller can demonstrate to Buyer-
 - (a) Was publicly available at the time of receipt by Seller or thereafter becomes publicly available without breach of this Contract;
 - (b) Was known to, in the possession of, or developed by or for the Seller independently of the restricted information received from Buyer, and such knowledge, possession, or independent development can be shown;
 - (c) Was received by Seller from a party other than the owner of the restricted information, who has the authority to release the restricted information and did not require Seller to hold it in confidence; or
 - (d) Is released to or becomes available to a third party on an unrestricted basis from the owner of the restricted information, someone acting under the owner's control, or with the prior written approval of the owner.
- (ii) Under a valid order of a court or Government agency, Seller may release restricted information to which Seller is given access by or on behalf of NASA Buyer's Customer, or Buyer in performance of this Contract, provided that Seller provides prior written notice to the owner of the restricted information of such obligation and the opportunity to oppose such disclosure. Seller shall provide a copy of the notice to Buyer.

- (4) In the event that restricted information provided to Seller by or on behalf of NASA Buyer's Customer, or Buyer, includes a restrictive legend that Seller deems to be ambiguous or unauthorized, Seller must notify Buyer of such condition. Notwithstanding such a notification, as long as the restrictive legend provides an indication that a restriction on use or disclosure was intended, Seller will treat the restricted information pursuant to the requirements of this clause unless otherwise directed in writing by Buyer or the owner of the restricted information.
- (5) Other Contractual restrictions on restricted information. This clause is subordinate to all other Government clauses or requirements that specifically address the access, use, handling, protection or disclosure of information. If any restrictions or authorizations in this clause are inconsistent with a requirement of any other Government clause of this Contract, the requirement of the other clause shall take precedence over the requirement of this clause. Third party limited rights data and restricted computer software will be provided under this Contract only as authorized by the clause at 52.227-14, Rights in Data—General, Alternates II and III (as modified by 1852.227-14, if applicable). If Seller believes there is a conflict between this clause and another clause in this Contract regarding the access, use, handling, protection or disclosure of restricted information, Seller must consult with Buyer before taking subsequent actions under the other clause.

- (6) Buyer may require Seller to demonstrate how it is complying with this Handling and Protection of Restricted Information clause.
 - (7) Remedies. Recognizing that this Contract establishes a high standard of accountability and trust, Seller's breach of any of the conditions of this clause may provide grounds for the Government, Buyer's Customer or Buyer to pursue such remedies as may be permitted by law, regulation, or this Contract. Unauthorized uses or disclosures of sensitive information may result in termination of this Contract for default, in addition to any other rights and remedies available by law to the Government, Buyer's customer, or Buyer, or other provider of sensitive information.
 - (8) Unless otherwise specifically provided in this Contract, no warranty, express or implied, including without limitation any warranty of accuracy, utility, merchantability or of fitness for a particular purpose, is provided hereunder for any of the disclosed sensitive information.
 - (9) Seller's obligations under this clause shall survive the expiration or termination of this Subcontract.
- (b) Release of Restricted Information
- (1) Definition. "Restricted information," as used in this clause, means recorded information, regardless of form or the media on which it may be recorded, the use and dissemination of which is restricted, and includes:
 - (i) Limited rights data;
 - (ii) Restricted computer software;
 - (iii) Information incidental to Contract administration, such as financial, administrative, cost or pricing, or management information that embody trade secrets or are commercial or financial and confidential or privileged;
 - (iv) Information designated by the U.S. Government as Sensitive But Unclassified (SBU).
 - (v) Information that is marked JPL/Caltech Proprietary, Boeing Proprietary, Proposal Sensitive or Business Discreet;
 - (vi) Design information or guidance as may be embodied in or derived from computer-aided engineering, computer-aided design, analysis models, manufacturing models, drawings or translations of any of the foregoing, regardless of whether such information or guidance is marked or unmarked; and
 - (vii) Information obtained directly from Buyer's Customer or Buyer's electronic resources, such as computers, servers, networks, electronic libraries or document repositories, regardless of whether such information is marked or unmarked.
 - (2) Seller, as well as their lower-tier subcontractors and their individual employees, may require access to restricted information in the Buyer's Customer or Buyer's possession. Seller agrees that, where needed for the performance of a subcontract, Buyer may release to Seller and to any of its lower-tier subcontractors, restricted information delivered during the course of this Contract. Additionally, offerors agree that restricted information submitted with their proposals may be provided to Buyer's Customer's service subcontractors that assist Buyer's Customer with subcontract closeout. If suitably marked with a legend indicating that use and disclosure of restricted information is restricted or if the information falls under Paragraph (b)(1)(vi) or Paragraph (b)(1)(vii), such restricted information will be subject to the enumerated protections mandated by this clause. Seller's limited rights data and restricted computer software will be provided to other Buyer's Customer's or Buyer's subcontractors or their lower-tier subcontractors only as authorized by the clause at 52.227-14, Rights in Data-General, Alternates II and III (as modified by 1852.227-14, if applicable).
 - (3) Unless Buyer decides that reasonable grounds exist to challenge the markings, NASA, Buyer's Customer,

Buyer, Seller and its lower-tier subcontractors, shall comply with all of the safeguards contained in Paragraph (b)(4) and Paragraph (a) of this clause.

- (4) To receive access to restricted information needed to assist NASA, Buyer's Customer, and Buyer in accomplishing NASA mission activities and management and administrative functions, Seller and lower-tier subcontractors must be operating under a subcontract that contains this clause, which obligates the Seller or lower-tier subcontractor, with respect to restricted information marked with a legend indicating that use and disclosure of the information is restricted, to do the following:
 - (i) Use such restricted information only for the purpose of performing the services specified in its Contract;
 - (ii) Safeguard such restricted information from unauthorized use and disclosure;
 - (iii) Allow access to such restricted information only to those employees and subcontractors that need it to perform services under the subcontract;
 - (iv) Preclude access and disclosure of such restricted information to persons and entities outside of Seller's or its lower-tier subcontractor's organization(s);
 - (v) Inform employees who may require access to such restricted information about obligations to use it only to perform the services specified in its Contract and to safeguard it from unauthorized use and disclosure;
 - (vi) Require that each employee that has access to restricted information complies with the obligations regarding restricted information included in this clause; and
 - (vii) Return or dispose of such restricted information, as Buyer may direct, when the restricted information is no longer needed for performance of work under the Contract.
 - (viii) Maintain any restrictive markings on sensitive information coming into its possession and on any copies thereof.
- (5) Exceptions. The obligations and prohibitions of Paragraph 5. (b) (4) of this clause do not apply to restricted information which Seller/the receiving subcontractor can demonstrate to Buyer-
 - (i) Was publicly available at the time of receipt by Seller/the receiving subcontractor or thereafter becomes publicly available without breach of this Contract;
 - (ii) Was known to, in the possession of, or developed by or for Seller/the receiving subcontractor independently of the restricted information received from the Government, Buyer's Customer, or Buyer, and such knowledge, possession, or independent development can be shown;
 - (iii) Was received by Seller/the receiving subcontractor from a party other than the owner of the restricted information, who has the authority to release the restricted information and did not require the receiving subcontractor to hold it in confidence;
 - (iv) Is released to or becomes available to a third party on an unrestricted basis from the owner of the restricted information, someone acting under the owner's control, or with the prior written approval of the owner; or
 - (v) Is required to be released under a valid order of a court or Government agency, provided that Seller/the subcontractor provides prior written notice to the owner of the restricted information of such obligation and the opportunity to oppose such disclosure.
- (6) Seller or Seller subcontractor personnel requiring privileged access or limited privileged access to Buyer, Buyer's Customer, or NASA information technology systems that contain restricted information and that are the primary responsibility of another Subcontractor are subject to screening using the standard National Agency Check (NAC) forms appropriate to the level of risk for adverse impact to Buyer's Customer or NASA missions. Buyer may allow Seller to conduct its own screening, provided Seller employs substantially equivalent screening procedures.

- (7) This clause does not affect Buyer or Buyer's Customer's rights or NASA's responsibilities under the Freedom of Information Act.

(c) Lower-Tier Subcontracts

Seller shall insert, or require the insertion of Paragraphs (a) and (b) of this clause, including this Paragraph (c), suitably modified to reflect the relationship of the parties, in all lower-tier subcontracts (regardless of tier).

6. Insurance and Indemnification

This clause applies in addition to the requirements in the General Provision, if applicable.

(a) This clause is applicable if:

- (1) The performance of this Contract includes activities which could endanger non-Seller personnel and such activities are performed at a location which is not secured by appropriate Seller- controlled access restrictions; or
- (2) This Contract requires work on a Government installation or premises under the control of Buyer or Buyer's customer.

(b) Insurance. Seller shall, at its own expense, provide and maintain during the entire performance period of this Contract at least the following kinds and minimum amounts of insurance with Buyer and Buyer's Customer, named as an additional insured in all of its policies for comprehensive liability insurance with a carrier licensed and admitted in the State of California.

(i) Workers' Compensation and Employer's Liability Insurance, as required by applicable Federal and state workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the Employer's Liability section of the insurance policy, except when Contract operations are so commingled with the Seller's commercial operations that it would not be practical. The Employer's Liability coverage shall be at least \$2,000,000, except in states with exclusive or monopolistic funds that do not permit worker's compensation to be written by private carriers. However, the Seller in fulfillment of its obligation to provide Workers' Compensation Insurance may maintain a self-insurance program if the Seller is qualified pursuant to statutory authority to do so.

(ii) Comprehensive Liability Insurance, including automobiles (owned, non-owned, or leased), completed operations, products, and contractual liability, for a combined single limit of not less than \$2,000,000 for all deaths, injuries, and property damage arising from any accident or occurrence.

(c) Insurance Certificates and Endorsements. Before commencing work under this Contract, Seller shall furnish (i) certificates of insurance for the coverages specified in paragraph (b) above, and (ii) an additional insured endorsement naming Buyer and Buyer's Customer as an additional insured to the Contract for the coverage specified in paragraph (b) above. Such certificates and the endorsement shall provide that any cancellation or material change in the insurance policies shall not be effective (i) for such period as the laws of the State in which this Contract is to be performed prescribe, or (ii) until 30 days after the insurer or Seller gives written notice to Buyer, whichever period is longer. Also, such certificates and the endorsement shall (i) cover contractual liability assumed under this Contract, and (ii) be primary and non-contributing to any insurance procured by Buyer or Buyer's Customer. Seller agrees to permit Buyer and Buyer's Customer to examine its original policies, should Buyer or Buyer's Customer so request. Should Seller at any time neglect or refuse to provide the insurance required herein, or should such insurance be canceled, Buyer shall have the right to procure same and the costs thereof shall be deducted from monies then due or thereafter to become due to Seller.

(d) Indemnification. Seller agrees that it will be responsible to the Government, Buyer's Customer, and Buyer, for, and will indemnify, immediately defend and hold harmless the Government and, Buyer's Customer, and Buyer, its trustees, officers, and employees, from any loss, cost, damage, expense or liability, including attorney's fees, or any suit therefore, by reason of actual or alleged claims of any kind, including, but not limited to property damage

or personal injury of whatever kind or character, arising out of or in connection with the performance of work hereunder by Seller or any of its lower-tier subcontractors, however caused, including any resulting from any alleged or actual negligent act or omission, regardless of whether such act or omission is active or passive, but excepting only a duty to indemnify to the extent such loss, cost, damage, expense or liability is attributable to the sole negligence or willful misconduct of the Government, Buyer's Customer, or of Buyer, its trustees, agents, officers or employees.

(e) Lower-tier subcontracts.

(1) Seller shall insert the substance of this clause, including this paragraph (e), in any and all lower-tier subcontracts under this Contract if:

(A) The performance of the lower-tier subcontract includes activities which could endanger non-lower-tier subcontractor personnel and such activities are performed at a location which is not secured by appropriate lower-tier subcontractor-controlled access restrictions; or

(B) This lower-tier subcontract requires work on a Government installation or premises under the control of Buyer's Customer or Buyer.

(2) At least five days before entry of each such lower-tier subcontractor's personnel on the Government installation, Buyer's Customer, or Buyer-controlled premises, Seller shall furnish (or ensure that there has been furnished) to Buyer a current certificate of insurance meeting the requirements of paragraph (c) above, for each such lower-tier subcontractor.

(f) This clause shall be interpreted pursuant to California law.

7. Lower –Tier Subcontracts

(a) Seller agrees that no lower-tier subcontract placed under this Contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type lower-tier subcontracts shall not exceed the fee limitations in Part 15.404 of FAR and any corresponding implementing or supplementing clauses in the NFS, unless approved by Buyer.

8. Prohibition of Subcontractor Use of Privately Owned Aircraft in Contract Performance

Seller, its employees, agents and lower-tier subcontractors, shall not use privately owned (noncommercial) aircraft in the performance of this Contract without prior approval of Buyer. Any request for approval to use privately owned aircraft must include a certificate of insurance as evidence that Seller has in effect Aircraft Liability Insurance coverage of not less than \$5,000,000 for all deaths, injuries, and property damage arising from one accident or occurrence. Seller shall be required as a condition of Buyer's approval to submit an endorsement naming Caltech and JPL, and Buyer, as an additional insured in such aircraft liability insurance policy. Seller shall include this clause in any lower-tier subcontract involving travel.

9. Restrictions on Funding Activity with China

- (a) Definition - "China" or "Chinese-owned company" means the People's Republic of China, any company owned by the People's Republic of China or any company incorporated under the laws of the People's Republic of China.
- (b) Public Laws 112-10, Section 1340(a) and 112-55, Section 539, restrict NASA from contracting to participate, collaborate, coordinate bilaterally in any way with China or a Chinese-owned company using funds appropriated on or after April 25, 2011. Subcontracts for commercial and non-developmental items are exempted from the prohibition because they constitute purchase of goods or services that would not involve participation, collaboration, or coordination between the parties.
- (c) This Contract may use restricted funding that was appropriated on or after April 25, 2011. Seller shall not contract with China or Chinese-owned companies for any effort related to this Contract except for acquisition of commercial and non-developmental items. If Seller anticipates making an award to China or Chinese-owned

companies, Seller must contact the Contracting Officer through Buyer to determine if funding on this Contract can be used for that purpose.

- (d) Seller represents that Seller is not China or a Chinese-owned company.
- (e) Lower-tier subcontracts - Seller shall include the substance of this clause in all lower-tier subcontracts made hereunder.

10. Union Data for On-Site Subcontractors

This clause applies to [i] to any time-and-material or labor-hour Contract where the work is performed at a JPL-controlled facility and [ii] to any other Contract for which any Seller personnel work in residence at a JPL-controlled facility. Work performed outside the United States is exempt from the requirements of this clause.

- (a) Seller shall provide Buyer-requested union information, including union information pertaining to its lower-tier subcontractors, if any, on the "Request for Union Data Regarding On-Site Subcontractors and their Lower-tier Subcontractors," set forth below. A copy of this form (sample shown below), filled in, shall be returned to Buyer's attention. Any changes in the data, such as the addition of a new union lower-tier subcontractor, shall be provided to Buyer through timely resubmission of the following form:

REQUEST FOR UNION DATA REGARDING ON-SITE SUBCONTRACTORS AND THEIR LOWER-TIER SUBCONTRACTORS

- 1. Date:
- 2. Subcontract number:
- 3. Scheduled Subcontract completion date:
- 4. Subcontractor name:
- 5. Total number of on-site personnel:
- 6. Cognizant Subcontracts Manager:
- 7. Lower-tier subcontractors under this Subcontract with union personnel working on-site at JPL-controlled facilities.

Number of Lower-tier Subcontractor Personnel at JPL Site:

Lower-tier Subcontractor :	Total Personnel:	No. of Union Personnel:
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8. Brief description of scope of work and location of work site sufficient to locate the union Subcontract and lower-tier subcontract workers.

9. a. Local union name: _____ Local No. (if any): _____

b. Number of on-site Subcontractor/lower-tier subcontractor personnel represented:

c. Name, phone number and address of business agent representing the local union:

(1) Name:

(2) Phone:

(3) Address:

d. Expiration date of labor agreement:

e. (1) If applicable, the employer association responsible for negotiating each agreement for Subcontractor/lower-tier subcontractor:

(2) If applicable, the names of Subcontractor's/lower-tier subcontractor's local employer representatives who take part in such negotiations:

10. Name, phone number and address of the Subcontractor's lower-tier subcontractor's representative who is responsible for handling labor relations/human resources issues:

a. Name:

b. Phone:

c. Address:

(Note: For items 8., 9., and 10., provide for each union and also for each on-site lower-tier subcontract, as applicable.)

11. Integration of Environment, Safety, and Health into the Subcontractor's Management System

- (a) For the purposes of this clause, the environmental, safety, and health system (ESHS) encompasses safety and health of employees, protection of environment, and the protection of the facility (plant) and products from damage, and includes pollution prevention, waste minimization, efficient energy management practices; and
- (b) In performing work under this Contract, Seller shall perform work safely to ensure adequate protection of the public, employees, the facility (plant) and product from damage, and the environment, and shall be accountable for the safe performance of work. Seller shall integrate environmental, safety and health requirements into program missions and Center operations. Environment, safety, and health programs shall be operated as an integral and visible part of how the organization conducts both its mission and facility operational business, including the management of both routine and emergency operations. Seller shall exercise due care commensurate with the associated hazards of the work. Seller shall ensure that management of environment, safety, and health functions and activities becomes an integral and visible part of the Seller's work planning and execution processes. Seller shall ensure that:
 - (1) Line management is responsible for establishing, maintaining, and enforcing safe and healthful working conditions and procedures for all personnel. All personnel shall take every reasonable measure to ensure safe and healthful operations and conditions in accomplishing its work, including the protection of the public, the facility, the product, and the environment from injury, illness, or damage.
 - (2) Clear and unambiguous lines of authority and responsibility for ensuring appropriate environment, safety, and health processes are established and maintained at all organizational levels.
 - (3) Employees possess the experience, knowledge, skills, and abilities necessary to discharge their responsibilities.
 - (4) Resources are allocated to address environment, safety, and health, programmatic, and operational considerations. Protecting the public and the employees from injury or illness, the facility (plant) and product from damage and the environment is a priority whenever activities are planned and performed.
 - (5) The ESHS will be designed to integrate management of environmental practices, and ensure compliance with applicable laws, regulations, and policies. The ESHS implements the environmental management system requirements of NPR 8553.1B, NASA Environmental Management System, dated September 22, 2009, with the following understandings:
 - (i) All Center-led reviews referenced in the NPR are self-assessments.
 - (ii) Regarding Paragraph 2.1.4(d), the Subcontractor's environmental policy shall not be made available to the public.
 - (iii) Regarding Paragraphs 4.2.1(a) and 4.2.1(b), Subcontractor-wide training will be provided to Subcontractor employees who elect to take it; however, this will not be mandatory training. This does not exempt employees from taking mandatory training required under federal, state or local regulation.
 - (6) Before work is performed, the associated hazards are evaluated and environment, safety and health standards and requirements are established which, if properly implemented, should provide adequate assurance that employees, the public, and the environment are protected from adverse consequences.
 - (7) Administrative and engineering controls to prevent and mitigate hazards are tailored to the work being performed and associated hazards. Emphasis should be on designing the work and/or controls to reduce or eliminate the hazards and to prevent accidents and unplanned releases and exposures.
- (c) Seller shall manage and perform work in under a documented site wide integrated ESHS that fulfills all conditions in paragraph (b) of this clause at a minimum. Documentation of the ESHS in an ESHS Plan shall describe how Seller will:
 - (1) Define the scope of work;

- (2) Identify and analyze hazards associated with the work;
 - (3) Develop and implement hazard controls;
 - (4) Perform work within controls;
 - (5) Provide feedback on adequacy of controls and continue to improve safety management; and;
 - (6) Describe how the Subcontractor will measure system effectiveness.
- (d) Seller shall maintain the integrity of its ESHS and ensure it is integrated with the Seller's business processes for work planning, budgeting, authorization, execution, and change control.
 - (e) Seller shall comply with, and assist Buyer and Buyer's Customer in complying with, environment, safety, and health requirements of all laws and regulations, and applicable Government Policies. Seller shall cooperate with Federal and non-Federal agencies having jurisdiction over environment, safety, and health matters under this Contract.
 - (f) Seller shall promptly evaluate and resolve any non-compliance with applicable environmental, safety, and health requirements of this Contract, and the ESHS Plan. If Seller fails to provide resolution or if the Seller's action or inaction causes substantial harm or an imminent danger to the environment or health and safety of employees or the public, Buyer may issue an order stopping work in whole or in part. Any stop work order issued by Buyer under this clause (or issued by the Seller to a lower-tier subcontractor under Paragraph (i) of this clause) shall be without prejudice to any other legal or contractual rights of Buyer or Buyer's Customer. If Buyer issues a stop work order, an order authorizing the resumption of the work may be issued at the discretion of Buyer. Seller shall not be entitled to an extension of time or additional fee or damages by or in connection with, any work stoppage ordered under the warranted exercise of this Paragraph.
 - (g) Seller is responsible for flowing down the environment, safety, and health requirements applicable to this Contract to lower-tier subcontracts at any tier to the extent necessary to ensure the Seller's compliance with the requirements.
 - (h) Seller shall include a clause substantially the same as this clause in lower-tier subcontracts involving hazardous work on site at a NASA-owned or-leased facility. Such lower-tier subcontracts shall provide for the right to stop work under the conditions described in paragraph (g) of this clause. Depending on the complexity and hazards associated with the work, Seller may choose not to require the lower-tier subcontractor to submit an ESHS Plan for the Seller's review and approval.

12. Notification Prior to Acquiring Information Technology Systems from Entities Owned, Directed, or Subsidized by the People's Republic of China

- (a) Definitions –

“Acquire” means procure with appropriated funds by and for the use of NASA, JPL or subcontractor through purchase or lease.

“Entity owned, directed or subsidized by the People's Republic of China” means any organization incorporated under the laws of the People's Republic of China.

“Information Technology (IT) System” means the combination of hardware components, software, and other equipment to make a system whose core purpose is to accomplish a data processing need such as the automatic acquisition, storage, analysis, evaluation, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data. IT systems include ground systems in support of flight hardware. IT systems do not include—

- (i) Systems acquired by a subcontractor incidental to a subcontract;

(ii) Imbedded information technology that is used as an integral part of the product, but the principal function of which is not the acquisition, storage, analysis, evaluation, manipulation, management, movement control, display, switching, interchange, transmission, or reception of data or information. For example, HVAC (heating, ventilation, and air conditioning) equipment such as thermostats or temperature control devices, and medical equipment where information technology is integral to its operation, are not information technology systems;

(iii) Services in support of IT systems, such as help desk services; or

(iv) Flight hardware, which includes aircraft, spacecraft, artificial satellites, launch vehicles, balloon systems, sounding rockets, on-board instrument and technology demonstration systems, and equipment operated on the International Space Station; as well as prototypes, and engineering or brass boards created and used to test, troubleshoot, and refine air- and spacecraft hardware, software and procedures.

(b) Section 516 of the Consolidated and Further Continuing Appropriation Act, 2013 (Pub. L.113-6), requires NASA's Office of the Chief Information Officer (OCIO) to assess the risk of cyber-espionage or sabotage of an information technology (IT) system that is produced, manufactured, or assembled by an entity owned, directed or subsidized by the People's Republic of China (PRC). Buyer retains the right to reject any IT system tendered for acceptance under this Contract, without any further recourse by, or explanation to, Seller, if the Government determines the IT system, in whole or in part, presents an unacceptable risk to national security.

(c) Seller shall obtain the approval of the Contracting Officer through Buyer before acquiring any IT system(s) from entities owned, directed or subsidized by the People's Republic of China under this Contract. Any Seller request to use such items shall include adequate information for Government evaluation of the request, including—

(i) A brief description of the item(s); and

(ii) Vendor/manufacturer's company name and address;

(d) The Contracting Officer will provide the information referenced in paragraph (c) to the NASA Office of the Chief Information Officer (OCIO) which will assess the risk of cyber-espionage or sabotage and make a determination if the acquisition of such system is in the national interest. Only items so approved shall be provided under the Contract.

13. Safety and Health

This clause is applicable when one or more of the following conditions exist: (i) the work will be conducted completely or partly on premises owned or controlled by the Government, (ii) the work includes construction, alteration or repair of facilities in excess of \$150,000, (iii) the work, regardless of place of performance, that involves hazards that could endanger the public, astronauts and pilots, the NASA workforce (including Seller employees working on NASA Subcontracts) or high value equipment or property and the hazards are not adequately addressed by Occupational Safety and Health (OSHA) or Department of Transportation (DOT) regulations (if applicable) or (iv) when Buyer determines that the assessed risk and consequences of a failure to properly manage and control the hazard(s) warrants use of the clause.)

(a) Seller shall take safety and occupational health measures as provided in this clause and JPL Form 2885 in Addendum A, in performing under this Contract and shall, to the extent set forth below, submit a safety plan and health plan (applicable to the work to be performed under this Contract) for Buyer's approval, prior to Contract execution. Seller shall comply with all Federal, State, and local laws applicable to safety and occupational health in effect on the date of this Contract and with the safety and occupational health standards, specifications, reporting requirements, and clauses set forth below.

(b) Seller shall take or cause to be taken any other safety and occupational health measures Buyer may reasonably direct. To the extent that Seller may be entitled to an equitable adjustment for those measures under the terms and conditions of this Contract, the equitable adjustment shall be determined pursuant to the procedures of the clause of General Provisions entitled "Changes," provided, that no adjustment shall be made under this Safety and Health clause for any change for which an equitable adjustment is expressly provided

under any other clause of the Contract.

(c) Standards. The following safety and health standards, specifications, issuances, and reporting requirements are prescribed pursuant to paragraph (a).

(i) General Standards and Specifications: Seller shall use NASA Procedural Requirements (NPR) 8715.3C NASA General Safety Program Requirements dated 03/12/ 2008 (w/ Change 7 dated 02/25/2011) as a general policy guide to establish a safety program to be included in the safety and health plan to be submitted in accordance with paragraph (a) above.

(ii) Nuclear Safety: Radioactive material will be handled in accordance with appropriate Federal, State, local and regulations and requirements, to specifically include those of the State of California, Department of Energy and/or Nuclear Regulatory Commission. Launching of nuclear materials into space shall be done in accordance with National Security Council/Presidential Directive 25, as of 05/08/1996.

(iii) Propulsion Safety: Seller shall comply with all applicable Federal, State, and local requirements applicable to propulsion safety, and the requirements shall be used to establish a propulsion safety program (if applicable) to be included in the safety and health plan to be submitted in accordance with paragraph (a) above.

(iv) Fire Safety: Seller shall comply with all applicable Federal, State, and Local requirements pertaining to Fire Protection and Life Safety. NASA STD 8719.11A, NASA Safety Standard for Fire Protection and Life Safety, dated 11/19/2008, will be followed to ensure safety of NASA facilities.

(v) Ammunition and Explosive Safety: Seller shall comply with all applicable Federal, State, and local requirements applicable to ammunition and explosive safety. The requirements of NASA-STD-8719.12 Safety Standard for Explosives, Propellants and Pyrotechnics, dated 01/2010, shall be used to establish an ammunition and explosive safety program to be included in the safety and health plan to be submitted in accordance with paragraph (a) above.

(vi) Pressure Vessel and Pressure System Safety: Seller shall establish a pressure systems safety and recertification program in accordance with NASA-STD 8719.17A NASA Requirements for Ground-Based Pressure Vessels and Pressurized Systems (PVS) dated 11/06/2009 and NPD 8710.5 Policy for Pressure Vessels and Pressurized Systems dated 03/12/2008.

(vii) Any additional safety and health standards, specifications, issuances and reporting requirements set forth in this Contract.

(d) The safety and health plan to be submitted by Seller pursuant to paragraph (a) above shall implement the requirements of this clause and of the standards and specifications of paragraph (c) of this clause and shall describe the means to be employed by Seller to monitor and enforce said requirements. The plan shall include the Seller's standards and criteria for imposing safety and health standards upon its Lower-tier Subcontractors and its plans and procedures for monitoring compliance with such standards. A safety and health plan for similar work performed by the Seller on a Federal Subcontract may be submitted for review and approval under this clause.

(e) Illness, Incident, and Injury Experience Reports.

Reports required by this clause or elsewhere in this Contract shall be furnished in three copies unless otherwise specified. Seller shall refer to JPL Form 2885 in Addendum A, for detail regarding reporting requirements.

(i) Mishap Reports: Seller shall furnish Buyer mishap reports and respond to Buyer requests for mishap reviews. Seller shall conduct its own mishap investigations consistent with NPR 8621.1B, NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating and Recordkeeping w/ Change 5 (03/15/ 2010) dated 05/23/2006 with the understanding that all references to NASA in that policy shall be interpreted to mean Seller. Seller shall utilize the NPR 8621.1B, NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating and Recordkeeping w/ Change5 (03/15/2010) dated 05/23/2006 as guidelines. Seller shall also report to Buyer, any incidents that may have visibility in the press, mission failures, or mission anomalies that will have high Buyer, Buyer's Customer or NASA visibility in the press.

(ii) The Subcontractor shall furnish such other reports as JPL determines to be related to the Subcontractor's safety and health program and its experiences thereunder.

(f) Noncompliance

(i) Buyer may notify Seller in writing of any noncompliance with this clause and specify corrective actions to be taken. Seller shall promptly take and report any necessary corrective action.

(ii) When Buyer becomes aware of noncompliance that may pose a serious or imminent danger to safety and health of the public, astronauts and pilots, the NASA workforce (including Seller employees working on NASA Subcontracts) or high value mission critical equipment or property, Buyer shall notify the Seller orally, and follow with written confirmation. Seller shall promptly take and report any necessary corrective action. If Seller fails or refuses to institute prompt corrective action in accordance with subparagraph (f)(i) of this Clause, Buyer may invoke the stop work order clause of this Contract or any other remedy legally available to Buyer in the event of such failure or refusal.

(g) Seller (or Lower-tier Subcontractor or supplier) shall cause the substance of this clause, including this paragraph (g) and any applicable clauses of this Contract, with any appropriate changes of designations of the parties, to be inserted in Lower-tier Subcontracts of every tier which involve work to which this clause is applicable as specified in the preamble above.

(h) Seller agrees that authorized representatives of Buyer, Buyer's Customer or the Contracting Officer shall have access to and the right to examine the sites or areas where work under this Contract is being performed in order to determine the adequacy of the Seller's safety and health measures under this clause.

14. Security Requirements for Unclassified Technology Resources

(a) Seller shall protect the confidentiality, integrity, and availability of NASA, Buyer's Customer, and Buyer Information and Information Technology (IT) resources, as well as protect NASA, Buyer's Customer, and Buyer Information from unauthorized disclosure. In particular, Seller shall be responsible for the IT security of all Seller systems connecting to JPL's internal, non-public network, regardless of location.

(b) This clause is applicable to Seller and lower-tier subcontractors if:

(i) Seller has any presence on Buyer's Customer's non-public, unclassified internal network (intranet). This presence occurs when Seller equipment accesses the JPL intranet by Ethernet cable, JPL's Wireless Network Access service (<https://jplnet.jpl.nasa.gov/wifi/>), or JPL's Remote Access service (<https://ras.jpl.nasa.gov/>); or

(ii) The Subcontractor generates, stores, processes, or exchanges unclassified electronic information, to include Controlled Unclassified Information (CUI), for NASA or JPL in support of NASA's missions, programs, projects and/or institutional requirements, regardless of whether the information resides on a NASA, JPL, or subcontractor information system.

The applicable requirements are stated in Paragraph (e) below.

(c) Definitions.

(i) **IT resources** means any hardware or software or interconnected system or subsystem of equipment, that is used to process, manage, access, or store NASA or JPL electronic information.

(ii) **NASA or JPL Electronic Information** is any data (as defined in the Rights in Data clause of this Contract) or information (including information incidental to contract administration, such as financial, administrative, cost or pricing, or management information) that is processed, managed, accessed or stored on a NASA or JPL IT system(s) in the performance of this Contract.

(iii) **IT Security Plan** is specific to the IT System and not the Contract. The Seller shall develop IT System

Security Plans per the requirements stated in paragraph (e) below. All Seller personnel requiring physical or logical access to NASA or JPL IT resources must complete NASA's annual IT Security Awareness training or JPL's annual IT Security Awareness training, which is based on NASA's annual IT Security Awareness Training and industry resources, and is supplemented by JPL-specific needs. JPL IT security training is located at <http://itet.jpl.nasa.gov/>.

(iv) **Controlled Unclassified Information (CUI)**- The Controlled Unclassified Information (CUI) standardizes the way the Executive branch handles information that requires protection and that is not classified. On November 4, 2010, President Obama signed Executive Order 13556 "Controlled Unclassified Information", which establishes a program for managing this information. The categories are listed at <http://www.archives.gov/cui/registry/category-list.html#categories>.

(d) Seller shall afford Government, Buyer's Customer, and Buyer access to Seller's and lower-tier subcontractors' facilities, installations, operations, documentation, information contained in databases and personnel used in performance of the Contract. Access shall be provided to the extent required to carry out a program of IT inspection (to include results of vulnerability testing), investigation and audit to safeguard against threats and hazards to the integrity, availability, and confidentiality of NASA or JPL Electronic Information or to the function of IT systems operated on behalf of NASA, and to preserve evidence of computer crime.

(e) Requirements:

(i) Seller shall establish procedures, roles, and responsibilities to implement the specified areas of IT Security.

(ii) Seller shall protect the confidentiality, integrity, and availability of Seller information systems in a manner commensurate with their sensitivity, value, and criticality by:

(a) Communicating security responsibilities documented in approved security plans and in rules of behavior according to whichever of the following three (3) circumstances applies:

(1) Seller has a persistent presence on JPL's unclassified, non-public, internal network (intranet). Persistent presence means access to JPL's intranet is obtained through a direct wired or wireless connection, as opposed to being provided via JPL's Remote Access service (<https://ras.jpl.nasa.gov>).

Action needed: All affected Seller assets must be identified in the IT Security Database (ITSDB) (<https://secdb.jpl.nasa.gov/itsdb/>) and included in an authorized ITSDB security plan.

(2) Seller does not have a persistent presence on JPL's intranet

Action needed: Any of the following three options can be used to demonstrate compliance, and this compliance must be demonstrated annually.

(a) Subcontractor provides a certificate issued by a United States Government entity (e.g., GSA) whose scope includes the assets that will support this subcontract, or

(b) Seller completes all of the following templates provided by the National Institute of Standards and Technology (NIST) that address risk assessment, security planning, business impact analysis, and contingency planning:

-Appendix K from Guide for Conducting Risk Assessments (http://csrc.nist.gov/publications/nistpubs/800-30-rev1/sp800_30_r1.pdf)

-Appendix A from Guide for Developing Security Plans for Federal Information Systems (<http://csrc.nist.gov/publications/nistpubs/800-18-Rev1/sp800-18-Rev1-final.pdf>)

-Appendix A from Contingency Planning Guide for Federal Information Systems (http://csrc.nist.gov/publications/nistpubs/800-34-rev1/sp800-34-rev1_errata-Nov11-2010.pdf)

-Appendix B from Contingency Planning Guide for Federal Information Systems (http://csrc.nist.gov/publications/nistpubs/800-34-rev1/sp800-34-rev1_errata-Nov11-2010.pdf), or

- (c) Seller completes a template provided by JPL OCIO that addresses basic aspects of IT security, located at <https://itsec.jpl.nasa.gov/vendor.php> (then click on “JPL_AGP_Cyber_Review_Template_Rev_41.xlsx”)

(3) Subcontractor is providing a commodity service or product

Action needed: Subcontractor demonstrates compliance by

- (a) Providing a certificate issued by a United States Government entity (e.g., GSA) for the service or product, or
 - (b) Appearing on an OCIO-approved list, or
 - (c) Agreeing to Buyer’s modifications to the Seller’s standard Contract.
- (b) Assessing and documenting risk through the identification of potential threats and vulnerabilities, while considering the sensitivity of the information being protected;
 - (c) Ensuring the security of information systems and services when they are developed, acquired, or when software is installed by users;
 - (d) Ensuring users receive the training necessary to perform their functions in a secure manner;
 - (e) Managing the security impact of changes to information system configurations;
 - (f) Ensuring the availability of resources by limiting the impact of disruptive events through the development of contingency plans, role-specific training, periodic contingency plan testing and updates;
 - (g) Minimizing the impact of security incidents through training, testing, timely detection, and mitigation;
 - (h) Reducing the security risks associated with maintenance activities by managing and documenting when, how, and by whom information systems are maintained;
 - (i) Ensuring that information system media are protected against unauthorized access when transported or stored, and by sanitizing media before being discarded or released for reuse;
 - (j) Ensuring that only authorized personnel are granted access to facilities housing information systems and their distribution and transmission lines; and mitigating the risk of environmental hazards through emergency systems and the use of alternate work locations;
 - (k) Ensuring that personnel who require access to Seller information systems have been screened consistent with the risk designation of their position;
 - (l) Protecting the integrity of software and data by detecting and correcting security flaws;
 - (m) Preventing unauthorized use of Seller information systems by providing managed and secure access;
 - (n) Ensuring that sufficient information is captured to reconstruct security-related events through creation, review, and retention of audit and accountability records;

- (o) Ensuring that access to non-public Subcontractor information systems will be provided only to verified users and devices; and –
- (p) Protecting stored, processed, or transmitted information by implementing secure communications, and separation of system services.
- (f) Seller shall provide via mutually agreed-upon formats, all information required to assist NASA, JPL, and Buyer in their Federal Information Security Management Act (FISMA) reporting responsibilities.
- (g) Seller shall report any suspected IT security incidents that involve NASA or JPL data, systems, or networks by calling the JPL Unified Service Desk at 818-354-4357 and collaborate with JPL OCIO and NASA SOC in the investigation and resolution of IT security incidents.
- (h) Seller shall insert this clause, including this paragraph in all lower-tier subcontracts that process, manage, access or store NASA or JPL Electronic Information in support of the mission of the Agency.
- (i) Seller certifies that it shall comply with the requirements set forth in this clause within 90 days of Contract execution.

15. Designation of New Technology Representative and Patent Representative

- (a) For purposes of administration of the clause of this Contract entitled "New Technology" or "Patent Rights--Retention by the Subcontractor (Short Form)," whichever is included, the following named representatives are hereby designated to administer such clause:

Title	Office Code	Address (including zip code)
New Technology Representative	MS/ 180-801	NASA Management Office at JPL 4800 Oak Grove Drive Pasadena, CA 91109
Patent Representative	MS/ 180-802	NASA Management Office at JPL 4800 Oak Grove Drive Pasadena, CA 91109

- (b) Reports of reportable items, and disclosure of subject inventions, interim reports, final reports, utilization reports, and other reports required by the clause, as well as any correspondence with respect to such matters, should be directed to the New Technology Representative with a copy to Buyer unless transmitted in response to correspondence or request from the Patent Representative. Inquires or requests regarding disposition of rights, election of rights, or related matters should be directed to the Patent Representative. This clause shall be included in any lower-tier Subcontract hereunder requiring a "New Technology" clause or "Patent Rights--Retention by the Contractor (Short Form)" clause, unless otherwise authorized or directed by the Contracting Officer through Buyer.

The respective responsibilities and authorities of the above-named representatives are set forth in 1827.305-370 of the NASA FAR Supplement.

Addendum A
Form JPL 2885
JPL Subcontractor Environmental, Health, and Safety Requirements

1. Introduction

1.1 Subcontractor shall take all reasonable measures in the performance of the work under this Subcontract to protect the safety and health of Subcontractor's employees and lower-tier subcontractors, JPL employees, and members of the public who might be affected by Subcontractor's work. This document describes JPL-specific environmental, health and safety requirements ("JPL EH&S Requirements") that Subcontractor must comply with in performing work under the Subcontract.

1.2 Subcontractor shall comply with these JPL EH&S Requirements and all applicable federal, state and local environmental, health and safety laws and regulations, and any other safety and occupational health measures (collectively, "Applicable EH&S Standards"). Subcontractor shall ensure all lower-tier subcontractors are aware of and in compliance with Subcontractor's approved safety and health program and as well as all applicable EH&S Standards. Subcontractor shall include the substance of this document in all lower-tier subcontracts issued under the Subcontract. JPL may notify the Subcontractor in writing of noncompliance with an Applicable EH&S Standard. Subcontractor shall promptly implement any corrective measures and report in writing to JPL on the actions taken.

Note: This document is not intended to and does not contain a comprehensive listing of all Applicable EH&S Standards. It addresses JPL EH&S Requirements and certain Applicable EH&S Standards applied at JPL. In addition to complying with this document as part of the Subcontract, Subcontractor remains responsible for determining for itself which laws and regulations apply to its work under the Subcontract and for complying therewith.

1.3 Unless otherwise indicated in this document, Subcontractor shall submit all deliverables specified, including but not limited to those listed in Section VI in a Safety Manual, to the JPL Subcontracts Manager within the timeframe specified.

2. Safety Requirements

2.1 General

2.1.1. Subcontractor is responsible for ensuring that its employees and lower-tier subcontractors know of the hazards associated with any specific task performed under the Subcontract. Subcontractors must require all employees who will perform work at JPL to watch one of the following Safety Awareness videos applicable to the work/classification PRIOR to start of work at JPL Oak Grove facility:

- Construction Worker
- Construction Supervisor
- Category A/Consultants and all classifications other than Construction

These videos can be accessed at: <https://acquisition.jpl.nasa.gov/tc/supdoc/>

2.1.2 Subcontractor is responsible for providing all safety equipment and personal protective equipment appropriate for the task. Subcontractor is responsible for providing required medical clearance and training for its employees.

2.1.3 Subcontractor is responsible for maintaining a safe job site and job site perimeter and for providing traffic controllers for both vehicle and pedestrian traffic when the normal traffic pattern is interrupted by facilities or construction activities at any worksite. Traffic controllers and all other Subcontractor personnel working in roadways shall wear high-visibility vests. Subcontractor shall provide necessary barricades, hazard warning tape, traffic signs, and trench cover plates for pedestrians and vehicles.

2.1.4 Any use of JPL-owned emergency equipment and fire hydrants for other than emergency purposes is prohibited, unless specific approval is first obtained from the JPL Construction Administrator.

2.1.5 Subcontractor personnel shall maintain a state of cleanliness and orderliness in work areas at all times. Stock items, furniture, equipment, interior decoration, vehicles, debris, or other substantial physical objects shall not be placed or stored temporarily, or permanently, in a path of emergency travel (i.e., corridor, exit door, stairway, or point of exit discharge), without the approval of the

JPL Fire and Life Safety Authority having jurisdiction. Hallways, doorways, stairwells, lobbies, and areas beneath stairs shall be maintained free of trash and debris and shall not be used as storage space. No object shall be located in such a manner as to prevent access to, or use of, fire protection equipment (i.e., fire extinguisher, fire alarm pull stations, hydrants, fire hose outlets, sprinkler valves, or Fire Department connections).

2.1.6 This provision is applicable during the period that proposals are evaluated under the provisions of the solicitation. The proposer and its lower-tiers must complete and submit JPL form titled "Experience Modification Rate (EMR) Form" which includes the past three years' EMR, OSHA Recordable/Lost-Time Incidents Rate Form. This data will be reviewed by the JPL Occupational Safety Program Office (OSPO) for acceptability. JPL strives to ensure that all Subcontractors have a current workers' compensation EMR between 0.8 and 1.0. A proposer or lower-tier subcontractors with an unacceptable rate is likely to be eliminated from award consideration. JPL may, on an exception basis, permit further consideration with an EMR greater than 1.0. Such further consideration would be subject to the submission and evaluation of a written plan of action to address the proposer's unfavorable EMR and a detailed hazard assessment relative to the proposed scope of work. Additionally, the proposer may be asked to provide OSHA Citation History - - the number of OSHA recordable injuries/illnesses per year for the past three years, the number of lost-time injuries/illnesses for the past three years, the annual OSHA recordable cases rates and lost-time case rates for the past three years. Any proposer would need to have both a total recordable case rate and cases with days away from work, job transfer, or restriction rate equal to or less than the current national average for the subcontractor's respective North American Industry Classification System number (NAICS) published by the Federal Bureau of Labor Statistics.

2.2 Fire Protection

2.2.1 If work is required on a JPL fire protection system, Subcontractor shall contact the Construction Administrator to work with the JPL Fire Department or the JPL AHJ to turn off, or turn on the fire protection system. No personnel shall be permitted to operate a fire protection system other than the JPL Fire Department or a C-16 Licensed contractor under the supervision of the JPL AHJ.

2.2.2 Any impairment of a fire protection system that lasts longer than 8 hours shall be documented by Subcontractor using written records for approval through the Construction Administrator.

2.3 Emergencies / Incidents and Mishap Reporting

2.3.1 Dial 911 from any JPL phone in the event of an emergency, from any JPL phone dial 911. Dial 818-393-3333 or 818-354-3333 from a cell phone or non-JPL phone. Be prepared to provide the following information to the operator: your name, company, the nature of the problem and the location. Stay on the line until you are told to hang up. JPL Fire Department emergency personnel will be dispatched to the site. For work being performed at Goldstone or Table Mountain Facility, refer to specific local emergency procedures at those facilities.

2.3.1.1 The Construction Administrator shall be the initial point of contact for all mishaps and close calls, and will work with the Occupational Safety Program Office (OSPO).

2.3.1.2 Mishap Reports shall be reported in accordance with the time requirements as specified in Table 1.

2.3.1.3 The Mishap Report may be submitted using the Subcontractor's own mishap form or the Subcontractor may contact OSPO for a template Contractor/Other form. If using a Subcontractor-provided form, ensure all required information is included.

2.3.2 Notify the OSPO via the Immediate Mishap and Close Call (IMACC) Reporting Line (818-354-2141) within 1 hour from the time of incident, following a Type A, B, C (hospitalization for inpatient care of one or two people), high visibility mishap, or high visibility close call.

2.3.3. Immediately (within 8 hours of date and time of incident) report all mishaps and close calls to the JPL Construction Administrator and OSPO (see Table 1)

2.3.4 All mishaps shall be investigated to the extent necessary to determine the Proximate causes, Root Causes, Corrective Actions and Lessons Learned.

2.3.4.1 The initial mishap report must include:
Detailed Incident Description
Mishap Reporting Classification (per Table 1)
Date and Time of Incident

Investigative findings
Initial corrective actions
Proposed and/or completed corrective actions
Lessons learned.

2.3.5 For Lost Time and Restricted Duty cases please include the start and end dates.

2.3.6 A detailed follow-up report must be submitted to the Construction Administrator within twenty-four (24) hours from time of mishap, and subsequent report(s) must be submitted to the Construction Administrator if additional information becomes known by Subcontractor and/or until all information required above has been provided.

2.3.7 A detailed follow-up report must be submitted to the Construction Administrator and OSPO) within twenty-four (24) hours from time of mishap, and subsequent report(s) must be submitted to the Construction Administrator if additional information becomes known by Subcontractor and/or until all information required above has been provided.

2.3.8 Mishap Reports shall be completed by the submitter within 30 work days.

Note: If mitigating circumstances (i.e., corrective actions are not complete, subcontractor still on lost time, final cost not available) are present and a mishap cannot be closed within the prescribed time frame, the mishap report shall be reviewed and submitted with any updates every 30 days until all corrective actions are closed.

2.4 Corrective Action Plan (CAP) and Lessons Learned

2.4.1 For incidents requiring a Mishap Report, a draft CAP shall be development by the subcontractor and provided to OSPO within 2 work days of development.

2.4.2 The subcontractor shall develop lessons learned from the incident.

2.4.3 The subcontractor shall develop proximate cause for the incident.

Table 1:
Mishap Reporting Classification and Reporting Requirements
JPL Mishap Reporting Classifications and their associated definitions

Classification Level	Injury	Property Damage	Reporting Time Requirements to OSPO
Type A Mishap	Occupational injury or illness that resulted in: A fatality, or a permanent total disability	Total direct cost of mission failure and property damage equal or greater to \$2,000,000 or more.	Immediate telephonic notification (within 1 hour) of date and time of incident to the OSPO at 818-354-2141. The subcontractor must work with OSPO prior to the initial written mishap report being submitted within 8 hours from date and time of incident Note: Subcontractors are responsible for CAL/OSHA notification. Notify OSPO of the report to CAL/OSHA.
Type B Mishap	Occupational injury or illness that resulted in a permanent partial disability, or hospitalization for inpatient care of three or more people within 30 workdays of the mishap.	Total direct cost of mission failure and property damage equal to or greater than \$500,000 but less than \$200,000.	Immediate telephonic notification (within 1 hour) of date and time of incident to the OSPO at 818-354-2141. The subcontractor must work with OSPO prior to the initial written mishap report being submitted within 8 hours from

			<p>date and time of incident</p> <p>Note: Subcontractors are responsible for CAL/OSHA notification. Notify OSPO of the report to CAL/OSHA.</p>
Type C Mishap	<p>Nonfatal occupational injury or illness that resulted in:</p> <p>Days away from work, not including the day or shift on which it occurred, or</p> <p>Restricted work, or transfer to another job not including the day or shift on which it occurred, or</p> <p>Hospitalization for inpatient care of one or two people within 30 workdays of the mishap.</p>	<p>Total direct cost of mission failure and property damage of at least \$50,000 but less than \$500,000.</p>	<p>The subcontractor shall submit an initial written mishap report within 8 hours from date and time of incident.</p> <p>The subcontractor shall notify OSPO (within 1 hour) from date and time of incident to the OSPO at 818-354-2141 when “Hospitalization for inpatient care of one or two”</p> <p>Note: Subcontractors are responsible for CAL/OSHA notification. Notify OSPO of the report to CAL/OSHA.</p>
Type D Mishap	<p>Any nonfatal CAL/OSHA recordable occupational injury and/or illness that does not meet the definition of a Type C mishap</p>	<p>Total direct cost of mission failure and property damage equal to or greater than \$20,000 but less than \$50,000.</p>	<p>The subcontractor shall submit an initial written mishap report within 8 hours from date and time of incident Or</p> <p>If the subcontractor has any questions they should call OSPO at 818-354-2141 (within 8 hours) from date and time of incident.</p>
Close Call	<p>An event in which there is no injury or only minor injury requiring first aid, but which possess a potential to cause a mishap.</p>	<p>An event in which there is no equipment or property damage, or minor equipment property damage of less than \$20,000, but which possesses a potential to cause a mishap.</p>	<p>The subcontractor shall submit an initial written mishap report within 8 hours from date and time of incident Or</p> <p>If the subcontractor has any questions they should call OSPO at 818-354-2141 (within 8 hours) from date and time of incident.</p>
High Visibility (Mishaps or Close Calls)	<p>Those particular mishaps or close calls, regardless of the amount of property damage or personnel injury, that the Administrator, Chief/OSMA (Office of Safety & Mission Assurance), CD (Center Director), AA/OIA (Assistant Administrator/ Office of Infrastructure and Administration) or the Center Office of Safety and Mission Success (OSMS) Director judges to possess a high degree of programmatic impact or public media, or political interest, including, but not limited to, mishaps and close calls that impact flight hardware, flight software, or completion of critical mission milestones.</p>		<p>Immediate telephonic notification (within 1 hour) of date and time of incident to the OSPO at 818-354-2141.</p> <p>The subcontractor must work with OSPO prior to the initial written mishap report being submitted within 8 hours from date and time of incident</p>

Hazardous Material Use

2.4.4 Before hazardous materials are brought on to any JPL site, two (2) copies of all Material Safety Data Sheet (MSDS) sheets shall be submitted by Subcontractor in the Safety Manual for review by the appropriate OSPO and JPL Environmental Affairs Program Office (EAPO) representatives. Where hazardous materials are used at the job site, Subcontractor is responsible for contacting the Construction Administrator for Material Safety Data Sheets (MSDS) related to hazardous materials used at the job site.

2.4.5 Subcontractor shall immediately report all spills to the Construction Administrator. If the spill results in an immediate hazard to personnel or property, Subcontractor shall call the on-Lab JPL Emergency number (911) for assistance. Subcontractor is responsible for containing and cleaning up all spills when directed based upon a determination of the hazard made by the JPL Fire Department.

2.4.6 If Subcontractor brings radioactive sources and/or x-ray equipment on site to JPL, a request shall be made to the Construction Administrator for review. Requests shall be made at least five business days prior to bringing such materials and/or equipment to JPL. Subcontractor bringing radioactive materials and/or machines/equipment utilizing ionizing radiation shall complete and submit Form 7135, "Radioactive Materials Use Authorization Request", and/or Form 7136 "Ionizing Radiation Machine Use Request/Authorization" located at <https://acquisition.jpl.nasa.gov/sr/> to the Construction Administrator. Once the request is granted, Subcontractor may bring these onsite.

2.5 Asbestos Containing Material (ACM)

2.5.1 Asbestos Notification Memorandum, Form 2895 which identifies buildings known to contain friable asbestos containing material is incorporated into this Subcontract. Subcontractor shall distribute the notice to its personnel prior to starting any work. It is the responsibility of Subcontractor to ensure that all precautions are taken to avoid exposure of Subcontractor personnel, lower tier subcontractor personnel, and JPL employees to these materials if Subcontractor personnel will perform any work in areas where ACM is or might be present. Subcontractor shall request the Construction Administrator provide an asbestos report identifying the specific locations of the ACM.

2.5.2 OSPO shall review all subcontractor Work Plans for asbestos-related operations (Class I, II, III or IV) as defined in Title 8, California Code of Regulations (8CCR1529). If the Subcontractor will access a ceiling plenum where ACM is present in the ceiling tiles, fireproofing on building structural members such as I-beams and/or thermal system insulation on pipes and a likelihood exists that ACM will be disturbed, the Subcontractor shall include detailed procedures in the Work Plan of the precautions to be implemented to protect its personnel and the surrounding areas prior to, during and after access. The Work Plan shall also include detailed procedures for cleanup in the event of an accidental disturbance of ACM. If Subcontractor performs abatement work, Subcontractor first shall submit an Asbestos Abatement Work Plan in the Safety Manual. The Asbestos Abatement Work Plan shall consist of a detailed and comprehensive work description relating to the asbestos abatement and waste disposal activities.

- a. Upon request, Subcontractor shall provide copies of appropriate worker training, respirator training and fit testing, medical surveillance certificates, permits, daily logs, air monitoring data and laboratory analysis reports to the Construction Administrator.
- b. If Subcontractor discovers during the course of work unanticipated Presumed Asbestos Containing Material (PACM) and/or ACM, Subcontractor shall stop work immediately and notify the Construction Administrator at once with information regarding the location and quantity.
- c. When Subcontractor performs asbestos abatement, Subcontractor shall provide area/clearance air monitoring reports to the Construction Administrator prior to re- occupancy.

2.6 "Hot Work" Permits

Prior to starting any hot work (e.g. welding, cutting, tar kettle use or other significant ignition source), a hot work permit must be obtained through the Construction Administrator.

2.7 Trenches and Excavations

2.7.1 Subcontractor shall review all underground utility drawings with the Construction Administrator prior to any excavation or trenching operations. A completed JPL Excavation Permit shall be obtained from the Construction Administrator prior to any digging operation (exception for hand digging 12 inches). Subcontractor shall submit a copy of its Cal/OSHA Annual Permit and Written Notice to Dig in the Safety Manual.

2.7.2 Subcontractor shall submit a trenching and shoring plan for trenches and excavations deeper than five feet in the Safety Manual. If a trench or excavation will be deeper than 20 feet, a plan shall be completed and signed by a Professional Engineer (PE) registered in the State of California.

2.7.3 During any excavation, if an inadvertent discovery of human remains, funerary objects, sacred objects, or cultural artifacts on JPL facilities occurs, excavation must cease immediately. Notification of such inadvertent discovery must be given to the Construction

Administrator immediately following discovery.

2.8 Elevated Work Surfaces

2.8.1 A copy of Subcontractor's current Cal/OSHA permit for all scaffolding (erection or dismantling) over 36 feet shall be submitted in the Safety Manual.

2.8.2 When there is a potential fall of 6 feet or more, Subcontractor shall utilize one or more of the following means of protection: guardrail system, personal fall arrest system, safety monitoring system, Safetynet system, warning line system, or covers. Selection of the means to protect personnel will be reviewed by OSPO in advance of the work.

2.9 Lifting Operations and Lifting Permit

2.9.1 For any mobile lifting and elevating operations, Subcontractor shall submit both a completed "Lift Permit", Form 7118 located at <http://acquisition.jpl.nasa.gov/> and a Lift Plan to the Construction Administrator a minimum of five business days in advance. The Lift Plan shall include:

- Date, time and location of the lifting operation
- Indicate whether Subcontractor is providing the crane or the name of the crane company, if different
- Current annual & quadrennial crane certificates
- Operator's license that meets the requirements of section 5006.1 ("Mobile Crane and Tower Crane-Operator Qualifications and Certification") of the Cal OSHA General Industry Safety Orders
- Size and type of mobile crane
- Safe work plan: description of work, crew, equipment and personal protective equipment, risk assessment, and preventive measures
- Diagram of the staging and work area
- Name of JPL Construction Administrator

2.9.2 OSPO will review Subcontractor's Lift Plan and issue a permit as needed. The permit may require Subcontractor to comply with certain conditions, including posting notices of roadway closures. The JPL Lifting Devices Manager will review the Lift Plan for work involving JPL Critical Items (JCI).

2.9.3 Subcontractor shall maintain a safe perimeter around all lifting and elevating operations. All roadways and personnel access points in or near the lifting operation must be blocked or cordoned off and Subcontractor personnel posted at the periphery of posted areas to prevent pedestrians from entering into the hazard zone.

2.10 Confined Space Entry

2.10.1 The confined spaces found at JPL include, but are not limited to:

- Manholes
- Cooling towers
- Elevator pits
- Ground tanks (underground and above ground)
- Underground tunnels
- Environmental test chambers

2.10.2 Subcontractor shall submit a copy of its Confined Space Program for permit and non-permit as required confined space entries in the Safety Manual.

2.10.3 Subcontractor must provide a "Confined Space Entry Permit", Form 2702 located at <http://acquisition.jpl.nasa.gov/> to allow and control entry into a confined space required such permit, in accordance with 8CCR5157.

2.10.4 Subcontractor shall provide 24-hour advance notice to the Construction Administrator prior to scheduling entry into a confined space.

2.10.5 Subcontractor shall be responsible for testing, classifying and permitting spaces as permit-required or non-permit required confined space entries, and providing appropriate test equipment and standby rescue personnel and equipment.

2.11 Flight Program/Project Safety

2.11.1 If the Subcontract involves flight project work, Subcontractor shall include in each Program/Project Plan prepared for a flight project a description of the risk management process that addresses the safety needs and special safety monitoring required for the flight program/project.

2.11.2 Project Plans containing such requirements will be referenced in the Contract Data Requirements List (CDRL) issued by the Subcontracting Officer under the Caltech/NASA Prime Contract. Subcontractor shall comply with any such requirements.

2.12 Electrical Safety/Arc Flash Hazard Protection

2.12.1 Subcontractor shall submit an electrical safety plan in the Safety Manual.

2.12.2 Energized Electrical Work Permit- If electrical equipment operating at 50 volts or more (phase to ground) cannot be de-energized due to the equipment design or operational limitations, work to be performed shall be considered energized electrical work and shall be performed by a written "Energized Electrical Work Permit", Form 7029 located at <https://acquisition.jpl.nasa.gov/sr/>.

2.12.3 Only qualified electrical personnel holding a valid certification issued by the State of California are permitted to perform any installation, wiring, trouble shooting or repair of electrical equipment.

2.12.4 Subcontractor personnel performing work on, or associated with, exposed lines or equipment energized at 50 volts or more shall have first aid training including cardiopulmonary resuscitation (CPR). Subcontractor personnel shall be certified annually to perform CPR, and first aid training shall take place once every three years.

2.13 Lockout/Tagout/Blockout

2.13.1 Subcontractor shall submit its Lockout/Tagout/Blockout Program to perform any maintenance and servicing of machinery, equipment, or energy source(s) in the Safety Manual.

2.13.2 Subcontractor shall ensure that a machine/equipment-specific lockout/tagout/blockout procedure is established in writing prior to performing any maintenance and/or servicing of machinery, equipment, or energy source(s), and shall ensure compliance to the procedure by its employees.

2.13.3 For the purposes of lockout/tagout/blockout, only red padlocks shall be used. Locks shall be individually keyed.

2.13.4 Locks shall be installed with a Lockout tag that has the name and phone number of the Authorized Individual installing the lock.

2.13.5 Each lock shall have a primary key. The primary key shall, at all times, be in the possession of the Authorized Individual that applied the lock.

2.14 Human Factors

As defined by NASA, Human Factors is a multi-disciplinary effort to acquire knowledge about people at work and apply that knowledge to the functional relationships between people, tasks, technologies, and environment for safe and efficient human performance. Occupations requiring prolonged or unusual work schedules may impact employee's health, safety, work quality, and program/project activity schedule. JPL gives high priority to addressing potentially detrimental impacts of unusual or varying work times to create a safe, healthy work environment, and minimize undesirable outcomes. If Subcontractor personnel will be working greater than 60 hours over a two-week period, Subcontractor shall develop human factors mitigation procedures and provide them to the Construction Administrator as requested.

2.15 Hearing Conservation

Note: The Hearing Conservation requirements below are not applicable to construction work.

2.15.1 Subcontractor shall comply with the NASA Hearing Conservation requirements specified in NPR 1800.1C, NASA Occupational Health Program Procedures, Section 4.8 for its personnel. Access this document at: <http://nodis3.gsfc.nasa.gov/>.

2.15.2 Subcontractor shall maintain a Hearing Conservation Program and performing noise monitoring as required by NPR 1800.1C.

2.15.3 Subcontractor shall provide a copy of its written Hearing Conservation Program, training records, and evidence of annual audiograms, if requested.

2.16 Ground Based Pressure Vessels and Systems

Access - The JPL Pressure Systems Manager, the pressure vessel and/or system (P/V/S) owner's Inspector and the Inspector's delegates shall have access to any place where work concerned with pressure vessels or pressurized systems (PV/S) is being performed. This includes manufacture, fabrication, heat treatment, assembly, erection, examination, and testing of the PV/S. The JPL Pressure Systems Manager shall have the right to audit any examination, to inspect the piping using any examination method specified by the engineering design, and to review all certifications and records necessary to ensure that the current applicable Building Code and NPD 8710.5 (dated 3/12/2008) requirements are met.

2.17 Boom Lift Parking and Storing

Subcontractor shall adhere to the parking and storing requirements for boom lifts listed below:

Select a safe parking location with a firm level surface clear of obstruction and traffic

Lower the boom to the stowed position, rotate the turntable so the boom is between the non-steering wheels

Turn the key switch to the off position and remove the key to secure from unauthorized use

Chock the wheels.

3.0 JPL Safety Reporting

3.1 Safety concerns may be reported by calling Immediate Mishap and close call (IMACC) Reporting Line (24/7)-818-354-3141 or the Anonymous Hazard Reporting Hotline at 818-393- 6483.

4.0 NASA Safety Reporting System (NSRS)

4.1 The NASA Safety Reporting System (NSRS) is an anonymous, voluntary, and responsive reporting channel to notify NASA's upper management of concerns about hazards. Any NASA employee, Subcontractor employee, or Subcontractor working in support of NASA may use the NSRS to report safety concerns. The NSRS is designed to supplement local hazard reporting channels. Any hazards or safety concerns should be reported using established safety reporting procedures.

We encourage all subcontractors to report safety concerns by using the JPL Safety reporting process as noted above in Section III as the first step.

5. Environmental Requirements

5.1 Hazardous Waste

Note: Subcontractor shall not use JPL trash containers for any type of disposal. All general trash is the responsibility of the Subcontractor except as noted in Section C, below.

Note: Unless otherwise specified in the Subcontract, Subcontractor shall remove all containers with unused chemicals that are not waste from the site, including partially full containers of adhesive, solvent, paint, roofing tar, etc. Disposal of partially or completely filled chemical containers at JPL is prohibited.

5.1.1 Subcontractor is responsible for properly segregating hazardous waste. Subcontractor shall maintain all hazardous waste containers located on the work site in a manner which conforms to the Resource Conservation and Recovery Act, and applicable state laws.

5.1.2 Subcontractors shall supply its own roll off bins and drums for hazardous waste accumulation and transport. All roll off bins and drums must be D.O.T. compliant.

5.1.3 Subcontractor shall ensure all hazardous waste is properly identified and put into the properly labeled container. All containers

should remain closed except when adding waste to the container. Accumulate hazardous waste indoors. Keep hazardous waste containers near the point of generation. Segregate waste by type to prevent co-mingling; flammable, corrosive, toxic, or reactive.

5.1.4 Subcontractor shall coordinate with the Construction Administrator for approval of any hazardous waste accumulation, transport or disposal. Subcontractor is responsible for off-site disposal of hazardous waste.

5.1.5 Subcontractor shall schedule hazardous waste collection by calling the EAPO Representative when the quantity limitation of the container is reached, or within nine

(9) months of the waste accumulation start date on the 2799-S hazardous waste label, whichever occurs first. Up to 55 gallons of the same type of hazardous waste, or one quart of acutely hazardous waste at the point of generation may be accumulated for up to nine (9) months, or when the quantity limitation of the container is reached, whichever occurs first.

5.1.6 Subcontractor shall prepare Hazardous Waste manifests, Land Disposal Restriction forms and profiles and send copies of the documents for approval to the EAPO Representative at least 72 hours prior to scheduled transport. Only the EAPO Representative or designee has the authority to sign manifests for loads of hazardous waste or acutely hazardous waste.

5.1.7 Subcontractor shall manage all empty hazardous materials containers greater than five (5) gallons, and empty extremely hazardous waste containers, as hazardous waste.

5.1.8 Fluorescent light tubes shall be managed as a hazardous waste (universal waste), boxed, and sent to the rear of Building 305.

5.2 Air Quality

5.2.1 Subcontractor shall post equipment operating permits as necessary. Contact the Construction Administrator for any questions regarding proper permitting requirements.

5.2.2 Contaminated wipes shall be disposed of as hazardous waste. Used or contaminated rags shall be contained when not in use.

5.2.3 Subcontractor shall use compliant paint gun(s). Prior to use of paint gun(s), contact the Construction Administrator to ensure the use of paint gun(s) has been approved and/or is appropriate to use.

5.2.4 JPL falls under the South Coast Air Quality Management District requirements; therefore all Subcontractors shall use material compliant with this District's rules and regulations.

5.2.5 Subcontractor shall report usage and emissions from their internal combustion engines directly to the South Coast Air Quality Management District as required if operated under 72 hours/quarter, and shall provide name, address and type of work performed to the EAPO Representative AND Construction Administrator.

Note: Monitoring and reporting of the duration of operating time and emissions from equipment operated by Subcontractors is not required if the equipment is exclusively used for the following purposes that do not contribute to the manufacturing process: landscaping and grounds maintenance, maintenance and repair of structures, equipment, and their appurtenances, construction and demolition, or environmental investigation, testing, and remediation.

5.3 Trash and Recyclable Material

5.3.1 If Subcontractor construction activity is expected to generate debris in excess of 10 cubic yards over the course of the activity, Subcontractor shall contact the Construction Administrator. Subcontractor shall procure a separate dumpster specified for the debris and arrange for its disposal. Plant material and soil shall be disposed of by the Subcontractor and not placed in JPL bins, except for:

- scrap metal is allowed in the JPL scrap metal roll-off bin.
- cardboard waste is allowed in the JPL cardboard bin.

5.4 Wastewater

5.4.1 Prior approval must be obtained from the EAPO Representative or designee before Subcontractor washes any material into the

sanitary sewer system.

5.4.2 Subcontractor shall under no circumstances wash any materials outside without prior approval from the EAPO Representative or designee.

5.4.3 All chemical containers greater than five (5) gallons shall have secondary containment and be covered when stored outside.

5.5 Soil

5.5.1 Subcontractor shall contact the Construction Administrator for pre-approval of all disposal sites to which JPL soil and asphalt is sent.

5.5.2 In case of an unusual odor or color in the soil, Subcontractor shall contact the Construction Administrator for resolution determination.

5.5.3 All soil storage piles must be covered by plastic unless exempted by the EAPO Representative or designee. If Subcontractor requests soil storage piles remain uncovered, Subcontractor will contact the Construction Administrator for a determination.

5.6 Chemicals Brought On Premises

5.6.1 No ozone depleting chemicals allowed for cleaning purposes may be used at JPL. For a listing of such chemicals see <http://www.epa.gov/ozone/science/ods/classone.html>

5.6.2 No NESHAP Halogenated Solvents allowed for cleaning purposes may be used at JPL as follows: Carbon Tetrachloride, Chloroform, Methylene Chloride, Perchloroethylene, Trichloroethylene, and 1-1-1-Trichloroethane.

5.6.3 Restricted use of Volatile Organic Compounds (VOC) for cleaning purposes: Subcontractor shall contact the Construction Administrator for prior authorization to use any VOC at JPL.

5.6.4 The EAPO Representative or Construction Administrator will review Subcontractor chemical information and advise Subcontractor on the proper disposal of the container per JPL requirements for all targeted chemicals procured or otherwise brought on premises by Subcontractor. Subcontractor must provide a list of the identified chemical(s) along with the MSDS in the Safety Manual.

6.0 Safety Manual Documentation

Note: To the extent required by Applicable EH&S Standards above, the mandatory documents listed below shall be provided to the JPL Subcontracts Manager in a Safety Manual at least 10 days prior to start of work.

- Injury and Illness Prevention Program (IIPP), including applicable documentation referenced herein. (8CCR 3203)
- Experience Modification Rate (EMR)
- Hazardous Communication Program. (8CCR 5194)
- Site specific safety plan, detailing procedures for site specific activities. (8CCR 3203 & 1509). A sample Site Specific Safety Plan is found at: <https://acquisition.jpl.nasa.gov/sr/>.
- Site specific permits (i.e., trenching and shoring (8CCR1503); confined space entry (8CCR5157); asbestos abatement notification (8CCR1529), as required.
- Required certifications and/or training records of employees as referenced in this document. (8CCR3203)
- Medical approval to wear respiratory protection. (8CCR1531, 5144)
- Medical approval to work with, but not limited to asbestos, cadmium and lead. (8CCR1529, 1532 & 1532.1)
- Hearing Conservation Program (8CCR 5095-5100)
- Bloodborne Pathogens Program (8CCR 5193)
- Respiratory Protection Program (8CCR 3409 and 5144)
- Heat Stress Program (8CCR 3395)
- Lockout/Tagout/Blockout (8CCR, 3314).
- Baseline medical eye exam for Class 3B and 4 laser users. (ANSI Z136.1, Section 6.3.1)
- Training Documentation: Proof of training in the following areas for all applicable personnel working on the job site:
 - o asbestos and lead
 - o confined space

- o hazard communication
- o fall protection
- o mobile crane operations
- o scaffold erection/dismantling
- o respiratory protection
- o power-actuated tools
- o industrial/lift trucks (forklifts) and tractors
- o electrical
- o elevating work platforms and aerial devices
- o excavation
- o lockout/tagout/blockout
- o heat stress
- o roofing operations
- o welding and cutting safety
- o LASER
- o ladders