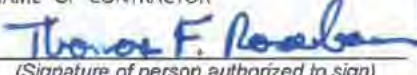
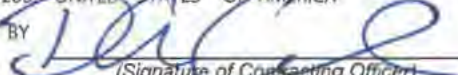


AWARD/CONTRACT		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING	PAGE 1 OF 2 PAGES		
2. CONTRACT (Proc. Inst. Ident.) NO. 80NM0018D0004		3. EFFECTIVE DATE 10/01/2018		4. REQUISITION/PURCHASE REQUEST/PROJECT NO.			
5. ISSUED BY NASA Management Office Jet Propulsion Laboratory 4800 Oak Grove Drive M/S 180-802		6. ADMINISTERED BY (If other than Item 5) CODE					
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, State & Zip Code) CALIFORNIA INSTITUTE OF TECHNOLOGY 1200 E CALIFORNIA BLVD PASADENA CA 91125-0001				8. DELIVERY <input type="checkbox"/> FOB ORIGIN <input type="checkbox"/> OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT Net 30 days			
				10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: ITEM 12			
CODE 80707		FACILITY CODE					
11. SHIP TO/MARK FOR NASA Management Office Jet Propulsion Laboratory 4800 Oak Grove Drive M/S 180-802 Pasadena CA 91109		12. PAYMENT WILL BE MADE BY CODE https://www.nssc.nasa.gov/vendorpayment NSSC-AccountsPayable@nasa.gov					
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: <input checked="" type="checkbox"/> 10 U.S.C. 2304 (c) (3) <input type="checkbox"/> 41 U.S.C. 3304 (a) ()		14. ACCOUNTING AND APPROPRIATION DATA See Continuation Sheet If Applicable					
15A. ITEM NO.	15B. SUPPLIES/SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT		
	See Continuation Sheet If Applicable						
15G. TOTAL AMOUNT OF CONTRACT					\$30,000,000,000.00		
16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
PART I - THE SCHEDULE				PART II - CONTRACT CLAUSES			
	A	SOLICITATION/CONTRACT FORM			I	CONTRACT CLAUSES	
	B	SUPPLIES OR SERVICES AND PRICES/COSTS			II	LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.	
	C	DESCRIPTION/SPECS./WORK STATEMENT			J	LIST OF ATTACHMENTS	
	D	PACKAGING AND MARKING		PART IV - REPRESENTATIONS AND INSTRUCTIONS			
	E	INSPECTION AND ACCEPTANCE			K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
	F	DELIVERIES OR PERFORMANCE			L	INSTRS., CONDS. AND NOTICES TO OFFERORS	
	G	CONTRACT ADMINISTRATION DATA			M	EVALUATION FACTORS FOR AWARD	
	H	SPECIAL CONTRACT REQUIREMENTS					
CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE							
17. <input checked="" type="checkbox"/> CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return 1 copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)				18. <input type="checkbox"/> SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the terms listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)			
19A. NAME AND TITLE OF SIGNER (Type or print) Thomas F. Rosenbaum				20A. NAME OF CONTRACTING OFFICER David Crouch			
19B. NAME OF CONTRACTOR BY  (Signature of person authorized to sign)		19C. DATE SIGNED 06/29/2018		20B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)		20C. DATE SIGNED 06/29/2018	

CONTINUATION SHEET

 REFERENCE NO. OF DOCUMENT BEING CONTINUED
 80NM0018D0004

Page 2 of 2

 NAME OF OFFEROR OR CONTRACTOR **CALIFORNIA INSTITUTE OF TECHNOLOGY**

ITEM NO (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
0001	Research and Development Services				(b) (4) (b) (4)
0002	Architectural and Engineering Services				(b) (4)
0003	Software Development/Implementation				(b) (4)
0004	Software Planning				(b) (4)
0005	Prof Advisory and Assistance Services				(b) (4)
0006	Prof Services/Program Management Support				(b) (4)
0007	Administrative/Management Support Service				(b) (4)
0008	Construction and Facility Services				(b) (4)
0009	Maintenance & Repair				(b) (4)

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PART I—THE SCHEDULE

SECTION B—SUPPLIES OR SERVICES AND PRICE/COSTS

B-1 SPONSORING AGREEMENT

- (a) This Contract is the sponsoring agreement between the National Aeronautics and Space Administration (NASA) and the California Institute of Technology (Contractor), a private nonprofit educational institution, which establishes the relationship for the operation of the Federally Funded Research and Development Center (FFRDC) known as the Jet Propulsion Laboratory (JPL). This Contract is the only document that constitutes the sponsoring agreement between the parties.
- (b) The Contractor shall perform the work that is designated in task orders issued by the Contracting Officer using procedures set forth in G-5 (Task Ordering Procedure). The general areas of such work for which the Contractor is encouraged to maintain its expertise to provide a quick response capability, are described in C-1 (Description of Work). As reflected in [FAR 35.017](#), contractors operating FFRDCs are allowed access to Government and supplier data, including sensitive and proprietary data, and to Government employees and facilities beyond that which is common to the normal contractual relationship. Notwithstanding the above, the California Institute of Technology is acting as a contractor and not as an agent of the Government.

B-2 ESTIMATED COST

- (a) The estimated cost of this Contract will be the sum of the estimated costs set forth in task orders issued hereunder, including all amendments thereto. It is anticipated that the Government will allot funds to task orders, and such funds shall be available for the payment of allowable costs incurred in the performance of work under the task orders, until the funds allotted equal the estimated costs set forth in the task orders. The amount of such allotted funds, as it may be changed via modification, shall be specified in each task order.
- (b) The minimum amount of supplies or services that shall be ordered during the effective period of this contract is \$1,000,000. The maximum amount of supplies or services that may be ordered for the five (5) year period of the contract is \$15,000,000,000. Maximum amounts associated with award term options are listed below. These options may be awarded per B-9, Award Term. If options are awarded, the maximum amount stated above will be increased by the following amounts via contract modification.

Award Term Option 1: \$3,000,000,000

Award Term Option 2: \$3,000,000,000

Award Term Option 3: \$3,000,000,000

Award Term Option 4: \$3,000,000,000

Award Term Option 5: \$3,000,000,000

Notwithstanding the maximum amount of the Contract, the Government is not obligated to order work under this Contract beyond the minimum amount set forth above.

- (c) The minimum amount is reached when the sum of the dollar amounts of all ordered supplies or services, except for any adjustments made pursuant to the Limitation of Cost or Limitation of Funds clause, equals or exceeds the minimum amount stated in paragraph (b) above.
- (d) The maximum amount is reached when the sum of the dollar amounts of all ordered supplies or services, except for any adjustments made pursuant to the Limitation of Cost or Limitation of Funds clause, equals the maximum amount stated in paragraph (b) above.
- (e) The maximum amount, if reached, precludes the issuance of new orders for supplies or services under this Contract. However, reaching the maximum amount does not preclude adjustments to the dollar amounts of existing placed orders, for actions that are within the scope of the placed orders, and which are made pursuant to existing contract authority, such as the Changes clause.

B-3 COST AND PERFORMANCE INCENTIVES FOR TASKS

- (a) The Government may permit the incorporation of cost and/or performance incentives for task orders issued under this Contract and performed pursuant to an approved Space or Economy Act Agreement. These incentive fees are in addition to and not inclusive of the Contract's fixed fee.

B-4 BUDGETARY ESTIMATES AND FUNDING

- (a) The Contractor shall prepare and submit budgetary estimates as directed by the Contracting Officer. The estimates shall set forth the funding requirements for each succeeding fiscal year remaining in the term of each task order under which the Contractor anticipates work will be performed. The budgetary estimates shall be supported by detailed discussions of the funding requirements, by a list of major procurements to the extent known at the time, and by such additional information as the Contracting Officer may need for planning purposes. Per CDRL XX-009, the Contractor shall also prepare and submit budgetary estimates in the formats required by NASA in order to support NASA's annual Planning, Programming, Budgeting, and Execution (PPBE) submission. The Contractor shall submit the PPBE information per annual guidance supplied by NASA. The PPBE submission will be forwarded to the NASA Mission Directorates and Control Account Managers (CAM) with a copy to the Contracting Officer.
- (b) From time to time, the Contractor may submit revised budgetary estimates and recommend changes in the approved funding of any task order, or the issuance of new task orders. The Contracting Officer shall inform the Contractor of the action taken with respect thereto. In the event the Contracting Officer initiates changes in the approved funding, as much advance notice thereof as possible shall be provided to the Contractor.

- (c) In the event of changes in approved funding, the Contracting Officer shall promptly issue task orders or task order amendments, in accordance with the procedure established in G-5 (Task Ordering Procedure), reflecting the changes.

B-5 ALLOWABLE COSTS

- (a) General. For the purpose of determining the amounts payable to the Contractor under this Contract, the allowability of costs shall be determined by the Contracting Officer in accordance with:

- (1) [Federal Acquisition Regulation \(FAR\) Subpart 31.2, Contracts with Commercial Organizations](#), and
 - (2) The terms of this Contract.

Notwithstanding other requirements of this contract, when determining the allowability of costs relative to the institutional indirect costs, benefits, and Interdivisional Authorizations, such determinations will be consistent with the Office of Management and Budget's (OMB) Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (commonly called "Uniform Guidance"), as stated in paragraph (c) below. In the case of an inconsistency between the provisions of this Contract and [FAR Subpart 31.2](#), the provisions of this clause shall govern.

- (b) Direct Costs. All costs incurred by the Contractor in connection with the operation of JPL under this Contract, except for those costs identified in paragraph (c), Institutional Indirect Costs, shall be considered direct costs.
- (c) Institutional Indirect Costs. Allowable items of institutional indirect costs (also referred to as Facilities and Administration costs), originating from the campus of the Contractor and being charged to this Contract shall include the following:
 - (1) Campus Work. The Contractor shall be reimbursed for institutional indirect costs of work performed on the campus of the Contractor or at the Contractor's other non-JPL facilities during each of the Contractor's fiscal years. Reimbursement will be on the basis of those overhead rates for such fiscal years as are negotiated between the Contractor and representatives of the Government for those Government contracts under which the preponderance (in dollar amount) of Government work is performed on the campus of the Contractor. If a negotiated rate is provisional, the Contractor shall be reimbursed on the basis of this provisional rate, subject to an appropriate adjustment when the final rate for that period is established.
 - (2) JPL Work. In lieu of institutional indirect costs applicable to all other work performed by the Contractor for each of the Contractor's fiscal years, the Contractor shall be reimbursed in an amount negotiated between the parties for that fiscal year. The negotiated lump sum for institutional indirect costs will be an offset to the Contractor's total institutional indirect costs prior to the application of the overhead rate discussed in subparagraph (c)(1), above. Such negotiated amounts, and the period to which they apply, shall be set forth in modifications to this Contract. Pending an agreement as to

such negotiated amount for each period, the Contractor shall be paid provisionally on a monthly basis in an amount of one-twelfth of the last negotiated amount. If the Government determines that the total amount of such provisional payments will substantially exceed the anticipated final negotiated amount for that period, the Contracting Officer will direct the suspension or reduction of future payments and/or request a prompt refund of excess payments as appropriate. In addition, the Contracting Officer may reduce or withhold such provisional payments in the event the Contracting Officer determines that the Contractor has not submitted timely information to support its institutional indirect costs for such period.

FISCAL YEAR	NEGOTIATED LUMP SUM AMOUNT	MOD #
2019	(b) (4)	5
2020	(b) (4)	7
2021	\$	
2022	\$	
2023	\$	

(d) Discretionary Research Funds. The discretionary research funds are as follows:

- (1) President/Director Research & Development Fund (PDRDF). In addition to funding otherwise made available to the Contractor for the performance of work under this Contract, the Contracting Officer shall, by separate task order, make available to the Contractor funding for use in the performance of discretionary research and development. This additional funding shall be used at the discretion of the President of Caltech and JPL's Director to fund joint research and technology efforts between Caltech Campus and JPL researchers. These efforts will fall within JPL's purpose and mission or special competencies and shall be known collectively as the "President/Director Research and Development Fund". The base amount to be provided each year shall be \$4,000,000. Each year the Contractor receives an evaluation of exceptional as described in B-9 (h), the base amount shall be adjusted upward by \$1,000,000. Each year the Contractor receives an evaluation of very good as described in B-9 (h), the base amount shall be adjusted upward by \$500,000. An appropriate amount will also be provided by non-NASA sponsors based upon work performed for them under Section C-1(b).
- (2) Independent Research and Technology Development Program (IR&TD). NASA seeks to create an environment that encourages the Contractor to (i) expand knowledge in science and engineering, (ii) improve technology in areas consistent with the purpose and mission of JPL as NASA's FFRDC, (iii) enrich and broaden the spectrum of

technology available to NASA, and (iv) establish and nurture collaboration with universities, other NASA centers, government laboratories, and industry.

- (i) The parties agree that the Contractor's IR&TD Program will annually fund research and technology efforts. The Contractor's IR&TD projects will fall within the purpose and mission of JPL as an FFRDC as defined in C-1(a) of this Contract, and be conducted pursuant to the policies and procedures approved by the Contracting Officer. The Contractor shall obtain the Contracting Officer's approval that all IR&TD program projects fall within the purpose and mission of JPL as an FFRDC.
 - (ii) The costs incurred by the Contractor for IR&TD activities are recognized by NASA as necessary costs of doing business, particularly in cutting-edge technologies required to meet current and future scientific requirements. IR&TD costs incurred by the Contractor shall be reimbursable as allocated direct expenses to the extent they are allocable, reasonable, and not otherwise unallowable by law under [FAR 31.205-18](#). The cost of the Contractor's IR&TD projects shall be allocated through the general pool of the Contractor's allocated direct cost structure. The total annual budget for IR&TD projects shall not exceed three (3) percent of the Contractor's projected Modified Total Cost base at the beginning of each fiscal year.
- (e) Other Advance Understandings. Allowable costs shall also include the items of cost listed in subparagraphs (1) through (15) below. Reimbursement of such costs shall be subject to the requirement that any such costs be reasonable in amount and allocable under applicable cost principles identified in paragraph (a), above.
 - (1) Anticipatory Costs. The parties agree that costs shall be allowable if incurred by the Contractor in anticipation of (i) this Contract, or (ii) a subsequently executed task order or task order amendment there under, which, if incurred after the execution thereof, would have been allowable items of cost. When the Contractor's management decides to incur costs prior to the execution of a task order or task order amendment pursuant to this subparagraph (1), the Contractor will simultaneously notify the Contracting Officer in writing.
 - (2) Public Information and Outreach. In order to assist NASA in the implementation of its mandate under the National Aeronautics and Space Administration Act of 1958, as amended (the "Space Act"), the Contractor will distribute and otherwise make information about NASA programs and accomplishments and about space and science developments freely available to the public. Costs for Government program-related printed, electronic (e.g., Internet) or other distributable information, displays or exhibits, media access, mailings, photographs, audio or video recordings, approved collections of information from the public, or other related expenses incurred by the Contractor to interact with and inform the public about space, science and technology developments for public events, activities marking accomplishments under this Contract, or educational outreach shall be allowable. The Contractor shall also provide

stickers, patches, pins and inexpensive recyclable plastic bags (for the distribution of authorized materials).

- (3) Patent Infringement Litigation Costs. Costs of legal, accounting and other services, and related costs, incurred in connection with the defense of patent infringement litigation based on the performance of this Contract, of Contracts [NNN12AA01C](#), [NAS7-03001](#), NAS7-1407, NAS7-1260, NAS7-918, NAS7-920(F), NAS7-100, or of NAS7-270(F), shall be allowable, provided the Contractor has complied with the requirements of [FAR 52.227-2, Notice and Assistance Regarding Patent and Copyright Infringement](#), of this Contract, or of a similar provision in Contract(s) [NNN12AA01C](#), [NAS7-03001](#), NAS7-1407, NAS7-1260, NAS7-918, NAS7-920(F), NAS7-100 or NAS7-270(F), with respect to such litigation.
- (4) Technology Transfer Activities. In furtherance of NASA's policy objective of encouraging technology transfer, costs incurred in promoting and facilitating U.S. public and private sector technology transfer consistent with the requirements of this Contract shall be allowable.
- (5) Facilities Rearrangement and Alteration Costs. Costs incurred in special facilities modification or rearrangement shall be allowable where performed in accordance with the terms of this Contract (including any task order issued expressly therefore).
- (6) Terminal Costs. In the event the Contract is terminated by the government for convenience or expires, the parties will engage in good faith negotiations to reach agreement on a settlement of costs associated with such termination or expiration, as dictated by the circumstances. For purposes of this clause, the parties acknowledge that any settlement reached in connection with a termination for convenience or Contract expiration will be referred to as the "termination settlement." The following cost types will be considered allowable cost types under a termination or expiration. These costs are illustrative of the types of allowable costs and are not intended to be all-inclusive.
 - (i) The Government agrees that it is reasonable for the Contractor to acquire necessary supplies and services on the assumption that the Contract will be renewed or extended. Unless the Government notifies the Contractor that the Contract will not be renewed or extended, the Government will not object to a termination, phase-down, or closeout inventory, reasonable when acquired, on the basis that the inventory is excess to the requirements of the performance of the work under contract for the term during which the inventory was acquired.
 - (ii) The termination settlement shall include an amount, to be determined on an actuarial basis, to compensate the Contractor for the allocable portion of future health and life insurance premiums for employees of the Contractor vested for retirement or retiring during the term of this Contract or of the preceding Contract [NNN12AA01C](#), [NAS7-03001](#), Contract NAS7-1407, Contract NAS7-1260, Contract NAS7-918, Contract NAS7-920(F), Contract NAS7-100, Contract NAS7-270(F), or NASW-6 or retired upon or as a result of the termination of this Contract, to the extent that such employees' qualifications for such health and life

insurance benefits were based on their service in performing work under this Contract, Contract [NNN12AA01C](#), Contract [NAS7-03001](#), Contract NAS7-1407, Contract NAS7-1260, Contract NAS7-918, Contract NAS7-920(F), Contract NAS7-100, Contract NAS7-270(F), or NASW-6.

- (iii) Except as otherwise restricted by H-32(e)(6), the termination settlement shall include an allocable portion of terminal leave benefit payments (including, but not limited to accrued vacation time, severance, unused sick leave, and otherwise unfunded early retirement costs and pension obligations) made or owed to terminated and retired employees and employees who will be terminated or retired in the future to the extent that such employees' entitlements were based on their service in performing work under this Contract, Contract [NNN12AA01C](#), Contract [NAS7-03001](#), Contract NAS7-1407, Contract NAS7-1260, Contract NAS7-918, Contract NAS7-920(F), Contract NAS7-100, Contract NAS7-270(F), or Contract NASW-6.
- (iv) The termination settlement shall include an amount equal to the cost that it is estimated the Contractor will incur subsequent to termination in discharging its obligations under the provisions and clauses of this contract which require retention of Contractor records.
- (v) The termination settlement shall include a provisional amount equal to the estimated cost of benefits which the Contractor will be required to pay into any state unemployment fund subsequent to the termination for convenience of this Contract, based on compensation paid to employees in the performance of this Contract, Contract [NNN12AA01C](#), Contract [NAS7-03001](#), Contract NAS7-1407, Contract NAS7-1260, Contract NAS7-918, Contract NAS7-920(F), Contract NAS7-100, Contract NAS7-270(F), or Contract NASW-6. The provisional amount will be adjusted to reflect the actual amount of payments made into such unemployment funds, as soon as the actual amount of payments can be finally determined under applicable state and federal law. This understanding is based on the fact that the Contractor has elected to finance its liability for unemployment compensation and related benefits on a cost-of-benefits basis.
- (vi) The termination settlement shall include a provisional amount equal to the estimated cost of workers' compensation and employer's liability benefits (including benefits under the Longshoremen's and Harbor Workers' Compensation Act) which the Contractor will be obligated to pay over to the State Compensation Insurance Fund of the State of California, or to any other state compensation or employer's liability carrier, subsequent to the termination for convenience of this Contract, based on injuries or death resulting from such injuries sustained in the performance of this Contract, Contract [NNN12AA01C](#), Contract [NAS7-03001](#), Contract NAS7-1407, Contract NAS7-1260, Contract NAS7-918, Contract NAS7-920(F), Contract NAS7-100, Contract NAS7-270(F), or Contract NASW-6. This provisional amount will be adjusted to reflect the actual amount of payments made to such fund or carrier, as soon as the actual

amount of payments can be finally determined under the provisions of the applicable insurance contract or applicable state or federal law.

- (7) Treatment of CERCLA Environmental Costs. NASA has designated both the Department of the Army and the California Institute of Technology (Contractor) as potentially responsible parties (PRP) under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by 42 U.S.C. §9601 (et seq.) for purposes of allocating the cost of responding to JPL CERCLA contamination. In 1992, the facility known as JPL was placed on the National Priorities List of Superfund sites. The designation of PRP was made in accordance with the CERCLA. This clause shall govern the extent to which the Contractor can charge its CERCLA environmental costs as a PRP to this Contract. This clause does not recognize or create any Government liability for the Contractor's PRP CERCLA liability in the absence of a contract between the Contractor and NASA to operate JPL as an FFRDC. Additionally, this clause does not create or constitute an admission of liability by the Contractor. The parties agree that, at a minimum, any allowable costs flowing from PRP CERCLA liability associated with the Contractor's business organization referred to as JPL can be treated as an allocated direct cost (ADC) to this Contract. To the extent a cost arises from environmental wrongdoing, as defined in the DCAA manual, NASA shall not consider it an allowable cost under this Contract. The Contractor specifically reserves the right to contest determinations of allowability, including the appropriateness and/or application of the DCAA standard of environmental wrongdoing, pursuant to the Disputes provision of this Contract. Any other PRP liability apportioned to the California Institute of Technology (Caltech) which constitutes an allowable cost can be treated as an institutional F&A cost. Additionally, Caltech agrees, when cost effective, to pursue any insurance claims relative to its liability under CERCLA as a PRP. The parties agree that insurance proceeds that the California Institute of Technology receives as reimbursement for CERCLA liability shall be applied as a credit against CERCLA environmental costs which were or would be otherwise allowable under this Contract.
- (8) Caltech Faculty Consulting Costs. In addition to work performed by Caltech faculty for JPL under interdivisional transfers issued to the Contractor's campus by JPL, Caltech faculty may be utilized by JPL as consultants only if the needs of the Laboratory cannot be met by JPL staff or more cost effective sources.
- (i) Caltech faculty will be used sparingly by JPL as consultants and the circumstances of their engagement will normally meet each of the conditions set forth below:
- (A) The consultant(s) are especially qualified by education or by experience to perform some specialized service in a particular field.
- (B) The specialized service to be performed is the provision of advice to JPL management, typically in a technical area.

- (C) The consultant(s) contribute their knowledge but normally do not physically perform the work involved.
 - (D) The consultant(s) are retained as problem solvers since their expertise allows them to recommend solutions when it is not economical or prudent for JPL to work out the solutions.
 - (E) The consultant(s) do not supervise or perform operating functions.
- (ii) Individual Caltech faculty may provide consulting services to JPL for a maximum of 48 workdays per Caltech fiscal year, in accordance with (i) above and Caltech policy, unless other arrangements are approved in advance by the Contracting Officer.
 - (iii) Caltech faculty engaged by JPL as consultants shall be compensated for such services on a daily basis at a rate equal to 100 percent of their daily campus salary unless a greater amount is approved in advance by the NMO Procurement Officer. In addition to their compensation, Caltech faculty engaged by JPL as consultants will be reimbursed for allowable transportation, subsistence and other costs necessary for performing the consulting assignment. Transportation between the Campus and JPL will not be reimbursed.
 - (iv) To the extent that foreign travel is involved, approval is required in accordance with G-20.
- (9) Litigation Costs. This advance agreement only applies to certain litigation costs the Contractor incurs when it fails to prevail in court or at an administrative board. Specifically, the parties agree that when the Contractor litigates a third party suit and a court or an administrative board finds that the Contractor violated Federal law, the Contractor's legal cost and judgment costs will be allowable only when the Contractor can demonstrate it had a reasonable expectation of prevailing on the merits. The test regarding "reasonable expectation of prevailing" is whether (1) there was a reasonable basis for the facts asserted; (2) there was a reasonable basis for the theory of law advanced; and (3) there was factual support for the legal theory. Additionally, this advance agreement does not alter the requirement that costs also must be reasonable and allocable.
- (10) Other Cost Agreements. The NMO Procurement Officer may also approve other advance agreements with the Contractor regarding the allowability of particular types of cost.
- (11) Intergovernmental Personnel Act (IPA).
- (i) With prior written approval, the Contractor's personnel may be assigned temporary duties in accordance with the Intergovernmental Personnel Act (IPA). When the IPA assignment is to a NASA organization, the Contractor shall support its request for approval with a written endorsement from the applicable NASA proponent organization. When the IPA assignment is to a non-NASA sponsor, the

Contractor shall, at a minimum, also support its request for approval by specifically (i) referencing to one or more appropriate subparagraphs of C-1(a) or the special competency of JPL and (ii) demonstrating the anticipated benefits to be gained from participating in the IPA assignment with NASA's mission. Such temporary assignments shall be provided under separate IPA agreements rather than this contract. The negotiation of such IPA agreements will include the costs of Contractor employees direct labor cost, employee benefits and other direct costs (e.g., travel) while on temporary assignment. These costs shall be reimbursed under such IPA agreements and not this contract.

- (ii) The costs associated with negotiating, managing and providing administrative support to such Contractor employees temporarily assigned under an IPA Agreement are not in the nature of personal services. These costs shall therefore be reimbursed under the terms of this contract and not the individual IPA Agreements. Accounting review disclosed that IPA costs have a causal beneficial relationship with applicable allocated direct costs.
 - (iii) Pursuant to the concept of a single cost objective, the contracting parties have agreed to the exclusion of IPA costs from allocated direct costs. The parties have agreed to this cost accounting variance due to the immateriality of the IPA costs and the potential significant efforts associated with changing the existing cost accounting system. To allow for continuing cost monitoring, upon request by the NASA Management Office (NMO), the Contractor shall submit a cost report detailing incurred IPA costs, in order for the Government to reassess the materiality of the costs, per CDRL CM-002.
- (12) Regarding the allowability of interest payments by the Contractor to its subcontractor, Honeywell Building Solutions -SES, under subcontract number 1273095 and any follow-on subcontract for the same work, the Government has properly executed an approval to deviate from Federal Acquisition Regulation (FAR) [31.205-20, Interest and Other Financial Costs](#), and [31.109\(c\), Advance Agreements](#).
- (13) Regarding all payments (including but not limited to advance payments) to be made by the Contractor at the request of the Government, to the Government's energy conservation measures (e.g., HVAC and lighting upgrades) contractor(s), with which the Contractor has no privity of contract.
- (i) A deviation from the allowability provisions of Federal Acquisition Regulation (FAR) [Subpart 31.2, Contracts with Commercial Organizations](#), and FAR [31.109\(c\), Advance Agreements](#) was properly executed under the Department of Energy's IDIQ contract DE-AM36-09G029031 which NASA has utilized, via task order issuance, for the performance of the energy conservation measures at JPL.
 - (ii) Any dispute by the Government's energy conservation measures (e.g., HVAC and lighting upgrades) contractor(s) regarding the payments made shall be the responsibility of and handled directly by the Government.

- (iii) All requests to the Contractor to make payments to the Government's energy conservation measures (e.g., HVAC and lighting upgrades) contractor(s) shall be in writing, shall be issued by the NMO Contracting Officer, shall specify the amounts to be paid and by when (i.e., shall be a "payment schedule"), and shall include the name of the contractor(s) to be paid. Revisions to the payment schedule may be made by the NMO, in writing, at any time. The Contractor will draw the payments from an appropriate burden funded account.
- (iv) The Contractor shall continue to provide technical management, general administrative and other support to NASA's energy conservation measures contracting effort as requested by NASA.
- (14) Ground Seismology and Building Structural Health Monitoring Program Costs and Use of Facilities. The Contractor may install Ground Seismology and Building Structural Monitoring Equipment on land and in buildings located at the JPL Oak Grove Facility. Costs incurred for installing, maintaining, updating and administratively supporting the activities for the Ground Seismology and Building Structural Health Monitoring Program at JPL consistent with the requirements of this Contract shall be allowable.
- (15) Collaborations with the Joint Institute for Regional Earth System Science and Engineering (JIFRESSE) and the Institute for Planets and Exoplanets (iPLEX) at the University of California at Los Angeles. Costs incurred for labor, local travel, facilities, equipment and administrative expenses in support of the JIFRESSE and iPLEX collaborations consistent with the requirements of this Contract shall be allowable.
- (16) Costs incurred consistent with Attachment I, "Advance Agreement Between NASA and Contractor Regarding Work and Cost Impacts Resulting from the Coronavirus (COVID-19) Situation," shall be allowable. It is understood that notwithstanding language in the Attachment I, payments to the Contractor are made pursuant to Article B-6, CONTRACTOR FINANCING BY LETTER OF CREDIT (LOC), of this Contract. (Mod 6, effective 3/17/20)

B-6 CONTRACTOR FINANCING BY LETTER OF CREDIT (LOC)

- (a) Background. Payments to the Contractor shall be made upon the start of this Contract by the Letter of Credit (LOC) method through the Department of Health and Human Services—Payment Management System (DHHS/PMS) as set forth in [NPR 9680.1](#), NASA's Management of Grants and Cooperative Agreements and the associated implementation plan in Attachment A.
- (b) Understandings. The Parties acknowledge:
 - (1) The Contractor shall submit requests for funds electronically through the DHHS/PMS system using the P account.

- i. Authorizations and drawdowns under this contract will be made under the Contractor's current Entity ID Number (EIN) assigned P account number.
 - ii. LOC cash draws shall be processed at the NASA task order/DHHS /PMS subaccount level.
- (2) The Contractor shall draw funds to meet current requirements.
- (3) Cash draws shall be allocated across task orders based on a contract-to-date percentage of the current incurred cost records in the Contractor's Enterprise Business Systems, typically updated each business day. Cash draws for the predecessor contracts [NAS7-03001](#) and [NNN12AA01C](#) task orders will continue to use the agreed upon draw processes for each contract.
- (4) The total value of draws against the subaccounts represents the Contractor's LOC claim.
- (5) In support of NASA's fiscal month-end and year-end close process, the Contractor shall estimate its cash needs for the NASA defined LOC down time and draw as defined in (b) (1) and (b) (3) above. During such times it is recognized that disbursements may require up to ten working days.
- (6) To expedite the flow of cash and in alignment with [NPR 9680.1](#) and the associated implementation plan, the Contractor will notify the NASA Management Office (NMO) Procurement Office to promptly resolve funding variances between the Contractor's and NASA's financial systems;
- (7) For funding variances resulting from cancelled funds withdrawals, the Contractor will work with the NMO Procurement Office to obtain a current year fund to cover allowable obligations incurred during the period of performance of the task order.
- (8) Per CDRL FM-007, the Contractor shall provide a monthly contract reconciliation of expenditures to LOC draws to the Contracting Officer and GSFC RFO.
- (9) Separate reconciliations are required for predecessor contracts [NAS7-03001](#) and [NNN12AA01C](#).
- (10) LOC certifications on Standard Forms SF 425, Federal Financial Report, SF 1034, Public Voucher for Purposes and Services Other Than Personal, and SF 1035, Public Voucher for Services Other Than Personal (Continuation Sheet), are based upon the total dollar amount drawn under the subaccounts. Per CDRL FM-006, the Contractor will provide separate SF425 reports in PMS no later than 30 days following the end of each federal fiscal quarter for the open predecessor contracts [NAS7-03001](#), [NNN12AA01C](#), and new contract task order activity.
- (11) Per CDRL FM-005, specific processes that outline the procedures used to manage the LOC will be documented and provided to the Contracting Officer no later than sixty days after the Contract's effective date.

- (c) Interest. All funds provided to the Contractor shall be maintained in interest bearing accounts. Per CDRL FM-004, interest earned shall be remitted monthly to DHHS with concurrent notice to the GSFC RFO.

B-7 FIXED FEE

In addition to allowable costs reimbursed per the provisions of the Contract, the Contractor shall be paid a fixed fee for its performance thereof in the amount of \$31,000,000 annually. One-quarter of this amount, \$7,750,000, shall be disbursed by NASA to the Contractor quarterly, through the end of the Contract. Each quarterly payment shall be made no later than 30 days after the end of each quarter. If the final Contract fee payment period is less than a full quarter, the \$7,750,000 quarterly fixed fee amount shall be prorated and paid to the Contractor accordingly, no later than 30 days after the end of the Contract term.

B-8 CONTRACTOR EVALUATION

The contractor shall be evaluated each year, in accordance with Attachment G, "Performance Evaluation and Measurement Plan/Award Term Plan". The NASA Management Office Performance Appraisal Process—Performance Evaluation and Measurement Plan/Award Term Plan Preparation Guidance is provided as Appendix 2. The Government shall provide an updated list of evaluation criteria, as provided in B-9 (d).

B-9 AWARD TERM

- (a) Based on overall Contractor performance as evaluated in accordance with the Award Term Plan, the Contracting Officer may extend the contract for the number and duration of award terms as set forth in the Award Term Plan.
- (b) The Contracting Officer will execute any earned award term period(s) through a unilateral contract modification. All contract provisions continue to apply throughout the contract period of performance, including any award term period(s).
- (c) The Performance Evaluation and Measurement Plan/Award Term Plan shall be attached as Attachment G. The Award Term Plan provides the methodology and schedule for evaluating Contractor performance, determining eligibility for an award term, and, together with Agency need for the contract and availability of funding, serves as the basis for award term decisions.
- (d) The award term evaluation(s) will be completed in accordance with the schedule below. The Contractor may request a review of an award term evaluation which has resulted in the Contractor not earning the award term. The request shall be submitted in writing to the Contracting Officer within 15 calendar days after notification of the results of the evaluation.

Performance Review Schedule

Date	Activity
June 1	Begin discussion on upcoming goals

September 30	Final goals received by Contractor
October–December	NASA assessments for previous year Contractor self-assessment for previous year
January–February	Pre-final CPARS assessment feedback and individual meetings for previous year
March 15	Final CPARS assessment from NASA Board for previous year
March 15–April 29	CPARS Feedback and Office/Directorate Meetings for previous year
April 30	Final CPARS and award term determination for previous year
May 15	Last day for Contractor to appeal for previous year

- (e) The Contract has a base period of five years and the potential to earn five (5) one (1) year Award Term Options. At the end of each year of the base period, the Contractor can earn an additional option year, for a total potential term of 10 years, if all award term options are exercised.

Performance Period and Award Term Options Table

Evaluation Period	Performance Required for Award Term Option	Available Contract Period
Current Contract* October 1, 2017–September 30, 2018 CPARS Determination April 2019 (* For information only)		
First Year of Base Period October 1, 2018–September 30, 2019 CPARS Determination April 2020	Exceptional/Very Good (A/B)	Option Period 1 Option Period 2
Second Year of Base Period October 1, 2019–September 30, 2020 CPARS Determination April 2021	Exceptional/Very Good (A/B)	Option Period 3
Third Year of Base Period October 1, 2020–September 30, 2021 CPARS Determination April 2022	Exceptional/Very Good (A/B)	Option Period 4
Fourth Year of Base Period October 1, 2021–September 30, 2022 CPARS Determination April 2023	Exceptional/Very Good (A/B)	Option Period 5
Fifth Year of Base Period October 1, 2022–September 30, 2023 CPARS Determination April 2024	Exceptional/Very Good (A/B)	
Option Period 1 (Award Term 1) October 1, 2023–September 30, 2024	Satisfactory or above	
Option Period 2 (Award Term 2) October 1, 2024–September 30, 2025	Satisfactory or above	
Option Period 3 (Award Term 3)	Satisfactory or above	

October 1, 2025–September 30, 2026		
Option Period 4 (Award Term 4) October 1, 2026–September 30, 2027	Satisfactory or above	
Option Period 5 (Award Term 5) October 1, 2027–September 30, 2028	Satisfactory or above	

- (f) The Contractor must earn an Exceptional or Very Good adjective rating for the first year of Contract period (Oct 1, 2018–Sept 30, 2019) and each sequential period to earn additional one-year periods (two years may be earned in Base Period 1), not to exceed a total contract period of performance of ten years. In the event that the Contractor earns a rating less than Satisfactory during any contract period, no additional term will be earned and the contractor will lose one year of award term earned (if any). In order to allow sufficient time for the Government to re-procure services, the Government may unilaterally extend the contract by 1 year, keeping all other terms in effect.
- (g) **Award Term Option Evaluation Factors.** Award Term Option evaluation factors are defined in the Performance Evaluation Management Plan. Any changes, deletions, or additions to the evaluation factors for a specific period may be made unilaterally by the Government and will be provided in writing to the Contractor prior to the start of the Award Term Option period.

The Contractor's performance will be compared to the defined Award Term Option evaluation factors for the period and will serve as the basis for the Government's subjective determination of the Contractor's performance for awarding an additional Award Term Option, if any.

- (h) **Adjectival Rating.** The following rating system will be used for evaluation of Award Term Option:

Adjectival Rating	Grade	Description
Exceptional	A	Performance meets contractual requirements and exceeds many to the Government's benefit. The contractual performance was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective.
Very Good	B	Performance meets contractual requirements and exceeds some to the Government's benefit. The contractual performance was accomplished with some minor problems for which corrective actions taken by the contractor was effective.
Satisfactory	C	Performance meets contractual requirements. The contractual performance contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.
Marginal	D	Performance does not meet some contractual requirements. The contractual performance reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.

Unsatisfactory	F	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance contains a serious problem or problems for which the contractor's corrective actions appear or were ineffective.
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- (i) **Award Term Option Determinations.** The Government will determine the Contractor's rating for the Award Term Option period based on the Contractor's performance as measured against the Award Term Option evaluation factors. Contractor is eligible to earn award term options at the end of year's one through four of the Contract. The contractor earns an award term only if graded an A or B during the Contract period associated with the award term option. No award term is awarded to the Contractor for an overall grade of C or below.

At the end of each Award Term Option evaluation, the Performance Evaluation Board (PEB) will make a recommendation to the Term Determination Official (TDO). The TDO, who represents the Government, will make the final Award Term Option Determination in accordance with the Award Term Option Evaluation Plan. Actual Award Term Option determinations and the methodology for determining the Award Term Option are unilateral decisions made solely at the discretion of the Government. The Contractor will be awarded an Award Term Option period of contract performance only if the following conditions are met:

- (1) The Government determines that the Contractor meets the performance factors and scores an exceptional or very good rating;
- (2) The Government has a continuing need for the FFRDC; and
- (3) Funds are available.

Note: Nothing in this paragraph is intended to remove the Government's unilateral right to exercise the award term option.

- (j) **Review Process.** The Contractor may request a review of an annual Award Term Option decision. The request shall be submitted in writing to the Contracting Officer within 15 calendar days after notification of the Award Term Option decision. The NMO Director will conduct any Award Term Option decision review.

[END OF SECTION]

SECTION C—DESCRIPTION/SPECIFICATION/WORK STATEMENT

C-1 DESCRIPTION OF WORK**(a) NASA—Sponsored Work.**

The Contractor's primary mission is to support NASA in carrying out its mission. In doing so, the Contractor shall, in conjunction with the NASA Management Office and the appropriate NASA HQ sponsor, develop task plans to undertake science, research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration for NASA and the Nation. Such concepts may involve capabilities that are beyond the current state of the art in space missions, which NASA cannot accomplish as effectively through in-house or Contractor resources, and thus offer new opportunities to advance NASA's science and exploration goals well beyond existing programs. All work performed under this contract shall align with the Jet Propulsion Laboratory roles and responsibilities delineated in [NPD 1000.3, NASA Organization](#).

- (1) In performance of this contract, the Contractor shall, in conjunction with the NASA Management Office and the appropriate NASA HQ sponsor, develop task plans to undertake research, science and technology development including in the following areas:
 - A. Deep space and ground communications
 - B. Deep space navigation tools and processes, particularly complex, multi-body and/or ion propulsion navigation
 - C. Tools to provide mission navigation and instrument data to users
 - D. Advanced thermocouples for converting heat into electricity
 - E. Radioisotope thermoelectric generators batteries, and related battery and power generation
 - F. Entry, descent and landing on planetary surfaces
 - G. Mars Exploration
 - H. Planetary rovers
 - I. Extreme-environment spacecraft
 - J. Visible/Infrared/far infrared/submillimeter/microwave astrophysics research
 - K. Visible/Infrared/far infrared/submillimeter/microwave astrophysics space-based instrumentation

- L. Detectors needed for next generation imaging and spectroscopic observations in the visible infrared/far infrared/submillimeter/microwave wavelengths.
- M. Telescopes (mirrors and supporting infrastructure) needed for next generation observatories operating in the infrared/far infrared/submillimeter/microwave wavelengths.
- N. Cryogenic (4-Kelvin) systems, test chambers, and engineering capabilities needed for next generation instruments and observatories operating in the infrared/far infrared/submillimeter/microwave wavelengths.
- O. Heliophysics research and technology for space-based heliophysics instrumentation
- P. Exoplanet exploration research
- Q. High contrast imaging technology and testbeds needed for characterizing Earth-like exoplanets (this includes active mirrors, coronagraph technology and starshade technology)
- R. Exoplanet exploration science and capability to strategically plan an exoplanet exploration program with a goal of determining whether there is life on habitable exoplanets.
- S. Microelectronics laboratories needed to develop nanotechnology for detectors, advanced and adaptive systems for mirror technology, and other devices.
- T. Gravitational wave research and technology required for space-based gravitational wave detection.
- U. SAR technologies and engineering expertise.
- V. Swath radar altimeter (for ocean and fresh water applications) technologies and engineering expertise
- W. UV/VNIR/SWIR hyperspectral remote sensor technologies and engineering expertise.
- X. TIR multi and hyperspectral remote sensor technologies and engineering expertise.
- Y. Multi angular and polarimetric multispectral aerosol and particulate remote sensor technologies and engineering expertise.
- Z. Passive microwave and sub mm limb sounding remote sensor technologies and engineering expertise.

- AA. Passive microwave and sub mm radiometer technologies and engineering expertise for nadir atmospheric sounding.
 - BB. Radar technologies and engineering expertise for soil moisture measurement.
 - CC. Technologies and engineering expertise for large (>5 m) deployable full and sparse aperture microwave antennas (supporting 1, 2, 6, 7, and 8).
 - DD. GNSS Instrument technologies and engineering expertise for POD and reflectometry remote sensing.
 - EE. UV/VNIR/SWIR/TIR spectrometer technologies and engineering expertise for measurement of Ozone, CO₂, CH₄, other atmospheric constituents and properties.
 - FF. Microwave and laser instrument technologies and engineering expertise for gravity field measurements.
 - GG. Radar technologies and engineering expertise for remote sensing of clouds and precipitation.
 - HH. Laser communication technologies and engineering for high data rate.
 - II. Microwave scatterometer technologies and engineering expertise for measurement of ocean surface vector winds and correction of passive microwave measurements of sea surface salinity.
 - JJ. Radio Frequency (RF) Communications Technology
 - KK. Optical Communications Technology
 - LL. Position, Navigation, and Timing (PNT) Technology
 - MM. Optical Communication Ground Terminal Facility Operations
 - NN. Planetary Protection
 - OO. Robotics
 - PP. Autonomy and autonomous planning, operations and capabilities
 - QQ. Information and related data science and cyber research
 - RR. Gas sensing and analysis instrumentation
- (2) The Contractor shall, in conjunction with the NASA Management Office and the appropriate NASA HQ sponsor develop task plans, project plans (where called for by NASA requirements) and program plans (where called for by NASA requirements) for mission concept development, and then for mission formulation, implementation and

operations for complex and risky NASA planetary missions, particularly those requiring: complex deep space navigation; integration of radioisotope power systems; entry, descent and landing on planetary surfaces; mobility on planetary surfaces; and/or survival in extreme environments. As part of these activities, the contractor shall conduct mission analysis and requirements development, system engineering, technology development, and system development, integration, test and evaluation and mission operations in a manner so as to minimize overall mission risk and maximize the probability of meeting all mission requirements and success criteria.

- (3) The Contractor shall, in conjunction with the NASA Management Office and the appropriate NASA HQ sponsor develop task plans, project plans (where called for by NASA requirements) and program plans (where called for by NASA requirements) for mission concept development, and then for mission formulation, implementation and operations for complex and risky NASA astrophysics and heliophysics missions, particularly those requiring: high contrast imaging of exoplanets, cryogenic systems including telescopes and instruments, large deployable structures, and large format detectors. As part of these activities, the Contractor shall conduct mission analysis and requirements development, system engineering, technology development, and system development, integration, test and evaluation and mission operations in a manner so as to minimize overall mission risk and maximize the probability of meeting all mission requirements and success criteria.
- (4) The Contractor shall, in conjunction with the NASA Management Office and the appropriate NASA HQ sponsor develop task plans, project plans (where called for by NASA requirements) and program plans (where called for by NASA requirements) for mission concept development, and then for mission formulation, implementation and operations for complex and risky NASA Earth science missions, particularly those requiring: radars such as SAR and for remote sensing of clouds, precipitation, and soil moisture, and swath radar altimeters; highly sensitive spectrometers, and multispectral and hyperspectral remote sensing technologies; passive microwave and sub millimeter limb sounding remote sensors and radiometers; large deployable full and sparse aperture microwave antennae; microwave and laser instruments for gravity field measurements; laser communications for high data rates; GNSS technologies for Earth system studies; and microwave scatterometers. As part of these activities, the Contractor shall conduct mission analysis and requirements development, system engineering, technology development, and system development, integration, test and evaluation and mission operations in a manner so as to minimize overall mission risk and maximize the probability of meeting all mission requirements and success criteria.
- (5) The Contractor shall use their expertise to conduct advanced planetary exploration, astrophysics, heliophysics and Earth science mission concept and design studies for NASA HQ and for other NASA Centers, studies that can be used as the basis of future missions developed either by JPL or by other NASA Centers.
- (6) In order to ensure the transparency needed for science software to increase credibility of NASA-generated products, the contractor shall, for all science missions undertaken at the Lab, make available all NASA-funded/generated standard products along with

the source code for algorithm software, coefficients, and ancillary data used to generate these products. The contractor shall release software at the same time as science products are released publicly.

- (7) The Contractor shall supply a broad base of scientific and technical capabilities integral to NASA mission and operations, and shall maintain professional staff capabilities at the highest level in order to derive as much technological and scientific data as possible from the actual performance of research and development work under this Contract.
- (8) As a top-tier university, the Contractor shall facilitate the involvement of premier scientists, engineers, and students from the university and research communities in support of NASA's mission and in supporting other government agencies' related projects.
- (9) The Contractor shall support NASA in enabling program and institutional capabilities in accordance with NASA's Strategic Plan.
- (10) The Contractor may compete for or be assigned advanced technology research and development tasks that enable and enhance new space missions.
- (11) The Contractor may perform tasks that support NASA-sponsored Research and Analysis programs that carry out competed and peer-reviewed research, encompassing basic and applied research and technology development in space and Earth sciences. The Contractor may perform these tasks in both principal and supporting roles to enable effective project implementation and to further technological capabilities for future NASA requirements.
- (12) Space Communications and Navigation

The Contractor shall support space communications and navigation program and strategic planning.

The Contractor shall have oversight of the physical, personnel, operations, communications, information, and information technology security functions at the Deep Space Communications Complex at Goldstone, California. The Contractor shall adhere to the applicable Federal and NASA regulations, policies, procedures, standards, and guidelines cited in this Contract to ensure the integrity of the systems, products and services delivered.

12.1 Deep Space Network

The Contractor shall be responsible for the management of NASA's Deep Space Network, including Deep Space Communications Complexes at Goldstone, California; Canberra, Australia; and Madrid, Spain. The Contractor shall work with missions throughout the lifecycle to plan, implement and deliver reliable communication and navigation services required to meet established Agency mission objectives, including network integration objectives. The Contractor

shall use U.S. industry to the maximum extent practicable for the engineering, sustainment, operations and maintenance of the DSN and associated supporting systems. The two foreign sites in Australia and Spain are operated under the auspices of country-to-country agreements (treaties) approved by the U.S. Department of State. Based on this, the NASA Management Officer holds the contracts with the foreign country site operators as agreed upon by NASA and the foreign governments. NASA will approve all technical content and budgets associated with the two NASA contracts with the foreign country site operators. The Contractor shall be responsible for developing annual budgets and operating plans for all the DSN sites and the rest of the DSN activities. The Contractor, upon government approval, shall perform assigned tasks in principal or supporting roles to enable effective project implementation and to further technological capabilities for future NASA DSN requirements.

The Contractor shall provide technical surveillance and guidance at Government facilities at foreign locations in support of NASA work covered by this Contract, including Deep Space Network sites in Spain and Australia. The Contractor shall conduct site visits for the purpose of conducting property management system and other audits. The Contractor shall disclose the results of such audits to NASA.

12.2 Spectrum Management

The Contractor shall provide spectrum management for the Deep Space Network and the electromagnetic integrity of JPL in accordance with [NPD 2570.5, NASA Electromagnetic Spectrum Management](#), and [NPR 2570.1, NASA Radio Frequency \(RF\) Spectrum Management Manual](#). (Mod 4)

12.3 Policy and Strategic Communications

The Contractor shall perform STEM engagement and community advocacy related to the Deep Space Network and its Visitor Centers and the Goldstone Apple Valley Radio Telescope (GAVRT) project in cooperation with the Lewis Center for Educational Research (LCER).

The Contractor shall support analysis and coordination on policy and technical exchanges related to Global Navigation Satellite Systems (GNSS) and its Positioning, Navigation and Timing (PNT) services.

12.4 Advanced Communications and Navigation Technology

The Contractor shall support Agency advanced communications and navigation technology planning, roadmap development and analysis. The Contractor shall mature technologies, build prototypes develop new systems and capabilities, and support insertion into mission systems.

12.5 Systems Engineering and Standards

The Contractor shall support systems engineering and architecture analysis, conduct studies, and develop and maintain technical baseline documentation. The Contractor shall support development and maintenance of internationally agreed upon and interoperable space communication and navigation standards working with Consultative Committee for Space Data Systems (CCSDS) and other standards development organizations.

- (13) In order to ensure the full use of the results of research and development efforts of, and the capabilities of, the Jet Propulsion Laboratory, technology transfer is established as a mission of the Laboratory consistent with the policy, principles, and purposes of Sections 11(a)(1) and 12(g) of the Stevenson-Wydler Technology Innovation Act of 1980, as amended (15 U.S.C. 3710a); Section 3132(b) of Pub. L. 101–189; Sections 3134 and 3160 of Pub. L. 103–160; and of Chapter 38 of the Patent Laws (35 U.S.C. 200 et seq.), Section 20113 of the National Aeronautics and Space Act (51 U.S.C. Sec 20113), and Executive Order 12591 of April 10, 1987.
- (14) The Contractor shall maintain and conduct an education program in close coordination with the NASA Headquarters Education Office or any successor organization, the academic community at large, and in support to NASA’s strategic objectives to improve U.S. student retention in the Science, Technology, Engineering, and Mathematics (STEM) disciplines and to promote STEM literacy through strategic partnerships with formal and informal domestic organizations. The Contractor shall support NASA in accomplishing the Agency’s Education Strategic Objectives and Annual Performance Goals.
- (15) The Contractor shall maintain and conduct community outreach activities in close coordination with NASA Headquarters Office of Communications.
- (16) The Contractor, when and as directed by the Contracting Officer, may perform fundamental research at JPL. “Fundamental Research” as used in this Contract is defined in Appendix A of [NPR 2190.1](#). The Contractor may publish, release or otherwise disseminate data produced during the performance of task orders designated as fundamental research, including the final report, without prior review by NASA for export control or national security purposes. Notwithstanding the foregoing, the Contractor shall perform its responsibilities under F-4. Additionally, the Contractor is responsible for the reviewing of any publication, release or dissemination of the data for conformance with other restrictions expressly set forth in the Contract, and to the extent it receives or is given access to data necessary for the performance of the Contract which contains restrictive markings, for compliance with such restrictive markings. Nothing herein shall change the Contractor’s obligations under H-36, SECURITY, including but not limited to restricting and monitoring access of foreign nationals to the JPL facility. Notwithstanding anything stated herein, and unless NASA otherwise specifies in the applicable task order, the Contractor is authorized (1) to perform work on the Caltech campus pursuant to Interdivisional Authorizations as Fundamental Research, and (2) to award subcontracts to perform Fundamental

Research to subcontractors that are accredited institutions of higher learning in the United States. The Contractor may award subcontracts to perform Fundamental Research to other types of organizations only with the Contracting Officer's advance approval. C-1, paragraph (a) (13) does not create any vested rights in the Contractor to perform fundamental research at JPL. NASA may unilaterally rescind authorization for the Contractor to engage in fundamental research at JPL, at any time.

(b) Work for Non-NASA Sponsors.

The Contractor may propose to perform work for non-NASA sponsors, subject to prior review and approval by NASA, which the Contractor shall obtain prior to making any commitment of NASA resources regarding such proposed work. Consistent with the NASA Partnerships Guide (NAII 1050-3), such proposed work may offer to non-NASA sponsors the Contractor's unique facilities and capabilities, on a non-exclusive basis, but shall not permanently retain excess resources or capabilities not integral to NASA's missions.

- (1) All proposed work for non-NASA sponsors, including other Government agencies, will comply with the review process outlined in the Space Act Agreements Guide (NAII 1050-1) and the NASA Partnerships Guide (NAII 1050-3). Specifically, for all proposed non-NASA work, the Contractor will provide an abstract for preliminary NASA review and approval by the abstract submission criteria.

Contractor shall evaluate the proposed activity to ensure that the work does not:

- a. Compete with the private sector;
- b. Have the potential to put US industry at a competitive disadvantage with international entities, and;
- c. The Contractor shall not propose Non-NASA work solely to expand the work force.

If the abstract is approved, the Contractor will prepare a draft agreement and task plan for NASA review and approval. OIIR will have the lead in concluding international agreements. If the agreement and task plan are approved by NASA, the work will be designated in task orders issued by the NASA Contracting Officers pursuant to G-5.

- (2) All proposed work for non-NASA sponsors must identify one or more of the core competencies of the Contractor, Contractor roles and responsibilities as identified by NASA, and clearly identify how the proposed activity is integral to NASA missions.
- (3) All proposed work for non-NASA sponsors shall be consistent with the role of NASA as the Nation's civil space program.
- (4) All proposed work for non-NASA sponsors which involves the potential benefit to foreign commercial entities, should adhere to the principles set forth in the NASA Partnership Guide (NAII 1050-3).

- (5) Upon NASA approval, the Contractor may provide a Secure Compartmentalized Information Facilities (SCIF) to non-NASA sponsors to support non-NASA missions. Any work for non-NASA sponsors requiring SCIF facilities shall be limited to the performance of the NASA authorized activity. The facilities shall be returned to non-SCIF status if no longer required for NASA approved work. The costs associated with creating SCIF space and returning the space to its original configuration shall be solely the responsibility of the non-NASA sponsor, unless otherwise authorized by the NASA Contracting Officer.
 - (6) The Contractor, in its operation of the FFRDC, shall not compete with any non-FFRDC concern in response to a Federal agency request for proposal for other than the operation of an FFRDC. This prohibition is not required to be applied to any parent organization or other subsidiary of the parent organization in its non-FFRDC operations. Requests for information, qualifications or capabilities can be answered unless otherwise restricted by NASA.
 - (7) The Contractor in its operation of the FFRDC may propose to federal government Broad Agency Announcement solicitations that meet all requirements noted herein.
 - (8) The Contractor as limited to its operation of the FFRDC shall not enter into any international agreements not otherwise specifically authorized pursuant to this Contract.
 - (9) The Contractor shall submit a semi-annual report summarizing all active non-reimbursable agreements with non-NASA partners.
 - (10) Contractor may propose to perform work for a non-NASA sponsor. NASA may enter into an agreement with a non-NASA Sponsor and issue a Task Order to authorize the Contractor to perform the work to support the agreement. To facilitate technology transfer in support of individual agreements, Contractor grants NASA the right to grant the non-NASA Sponsor a non-transferable, royalty-free, non-exclusive, non-commercial, internal use license to data, software or patentable inventions developed by Contractor in performance of the NASA Task Order issued to support the agreement. Such license should not be construed as a waiver of any rights afforded to Contractor under Contract, including rights granted under G-12, H-37, H-38, FAR [52.227-11](#), [52.227-14](#), or [52.227-16](#). If the non-NASA Sponsor request rights greater than those NASA may grant under this provision or if the non-NASA Sponsor requires a license to use pre-existing Contractor data, software or inventions, NASA may direct the non-NASA Sponsor to the Contractor's Office of Technology Transfer, and the Contractor will process the request according to the terms of this Contract.
- (c) Related Facilities Work.
- (1) Task Order Funded Facilities Projects. The Contractor may be directed by task orders issued by the Contracting Officer and funded by special funds of the Government for such purposes and designated as Construction of Facilities (C of F) funds, to construct, restore, remove, relocate, maintain, install, or alter existing facilities provided by

paragraph (b) of C-2 (Resources for Performance of the Contract), below. The Contractor is authorized with Contracting Officer approval, to construct and install, whether with Contractor's in-house staff or through subcontracts, certain other buildings, premises, and facilities for the Contractor's use in the performance of any work under this Contract. The Contractor may also obtain by subcontract or provide with its own personnel, design, architectural and engineering services for facilities to be furnished by the Government under this Contract.

- (2) Related Facilities Acquisition and Management. For facilities acquisition and management work other than that authorized under subparagraph (c)(1) above, the Contractor shall, either with Contractor's in-house staff or through subcontracts, provide design, architectural and engineering services, and/or construct, acquire, restore, remove, relocate, maintain, install, or alter facilities furnished or acquired under this Contract, and may appropriately remove or dispose of, the equipment, facilities, buildings, premises, space and accommodations acquired, obtained, constructed, installed or held pursuant to this C-1, paragraph (c), Related Facilities Work, paragraphs (1) or (2), or pursuant to other provisions in this Contract.

- (d) Safety, Health and Mission Success.

NASA's policy is to protect the public, the workforce, high-value equipment and property and the environment from potential harm as a result of NASA activities and operations. To this end, the Contractor shall participate in the NASA Safety Culture Working Group, implement the NASA Safety Culture Survey along with the rest of the NASA Centers during the Agency Survey cycle, evaluate and deliver results and develop appropriate actions for the Laboratory that are consistent with NASA timelines as specified by OSMA. (Mod 4) In addition, in the performance of work at the Jet Propulsion Laboratory the Contractor is responsible for the safety and mission success of the JPL activities and operations and for compliance with applicable Federal, State, and local safety and health requirements, regulations, and standards.

In support of the objectives listed above, the contractor shall perform research and development tasks in the assurance technology areas as designated by the NASA Office of Safety and Mission Assurance to enhance Laboratory activities, and to achieve flight project goals without jeopardizing system performance.

- (e) Information Exchange with NMO Concerning JPL Programs and Projects.

In order to enable the NMO to interface effectively with JPL program and institutional (e.g., Property, Facilities, Environmental, Energy Conservation) offices, the Contractor shall invite the Director of the NMO or designated representatives to Program Management Reviews. In addition, the Contractor shall provide to the Director of the NMO and the Contracting Officer a semi-annual briefing on the status of major proposals (NASA and non-NASA) and planned new starts.

In order to enable the NMO to interface effectively and perform the NASA oversight function, the contractor shall provide the NMO a monthly schedule of all program, project,

major subsystem, payload technical and operational reviews including major development planning events. The contractor shall ensure that NMO is invited to attend and/or has access to the reviews/meetings mentioned above including the Standing Review Board (SRB) reviews at program or project Life-Cycle Reviews (LCR) and out-briefings to the FFRDC Center Management Council (CMC). In addition, the contractor shall provide an agenda that includes the time and location of the reviews and meetings at least 10 days prior to the review and provide an electronic copy of the presentations no later than 2 days prior to the event.

All government detailees assigned to JPL shall be approved by the NMO Director.

C-2 RESOURCES FOR PERFORMANCE OF THE CONTRACT

- (a) The Contractor shall provide, either directly or through subcontract, the management, scientific, engineering, technical and other personnel, labor and services necessary to perform all work required under this Contract.
- (b) Either directly or through acquisition by the Contractor as provided under this Contract, the Government shall provide, on a rent-free basis, all property as defined in [FAR 52.245-1, Government Property \(JAN 2017\)](#), which is required for the performance of such work. The property which the Government will provide for the Contractor's use in the performance of the Contract work includes the Government-owned facilities, including, but not by way of limitation, the land, buildings and improvements located at 4800 Oak Grove Drive, Pasadena, California, which are generally referred to as the JPL Oak Grove Facility; the Government-owned facilities at Goldstone Deep Space Communications Complex; and Table Mountain; and all other facilities heretofore made available by the Government for use by the Contractor in the performance of this Contract (including overseas tracking and data acquisition facilities as allowed by the terms of the separate NASA international agreement(s) or contract(s) for which there is a current or anticipated use requirement under this Contract. Any resources no longer required by the Contractor will be identified to the Contracting Officer. Annual reporting on Government property will be provided by the Contractor.
- (c) Except as otherwise directed by the Contracting Officer or otherwise provided for under this Contract or otherwise required to be obtained by the Government, the Contractor shall procure all necessary permits or licenses required for the performance of work under this Contract. With regard to copyrighted material, the Contractor shall ensure that any copyright license required in order to perform work under this Contract shall provide that the license is freely transferable to any successor-in-interest of the Contractor, a successor Contractor to operate JPL, or the Government.

C-3 USE OF OTHER FACILITIES AND LOCATIONS

- (a) The Contractor shall, to the maximum extent practicable, use the facilities provided to the Contractor under C-2, paragraph (b) in performing work under this Contract. The Contractor is not precluded, however, from:

- (1) using other facilities or performing work at other locations when in its judgment and with NASA approval such a course will be more practical or economical; or
 - (2) subcontracting work in accordance with the applicable provisions of this Contract.
- (b) Prior to commencement of negotiations to lease facilities or extend such a lease for use under this Contract, the Contractor shall obtain the Contracting Officer's and HQ Facilities Real Estate Division's approval through the NASA Management Office, and under no conditions shall the Contractor negotiate or enter into a capital lease, nor extend an existing lease that, by the extension, becomes a capital lease.
- (c) The Contractor shall not occupy space that is leased by a subcontractor, other than in exceptional circumstances approved by the Contracting Officer or in specific instances where a limited number of Contractor employees are authorized by the Contractor to occupy such space for the purpose of managing or monitoring the subcontracted effort of that subcontractor.
- (d) Per CDRL FA-001, the Contractor shall submit to the Contracting Officer, on a quarterly basis, a report of facilities leased by the Contractor and of specific locations where Contractor employees are occupying space in subcontractor facilities pursuant to paragraph (c) above.

C-4 FACILITIES MANAGEMENT PROVISIONS

- (a) In applying life cycle planning principles in managing facilities, the Contractor shall establish and maintain a procedure for coordinating with and in keeping the Contracting Officer informed about facility management matters, including acquisition of facilities planning process described in G-15 (Facilities). The following applies to the implementation of the Construction of Facilities (CoF) Minor Facility Projects designated as Minor Revitalization and Construction (MRC), and Environmental Compliance and Restoration (ECR) Projects. Individual task orders shall be written to provide for each fiscal year's funding; with the exception of the Superfund Task Order that may include more than one (1) fiscal year's funds.
- (1) Project Implementation. For CoF projects, the Contractor may, with NASA approval, implement projects in any order after execution of a task order. The Approved Facility Project Cost Estimate as stated on the Summary Brief Project Document (SBPD) or ECR-SBPD may be increased by up to, but not to exceed, 25 percent for MRC Projects and 10 percent for Environmental Projects provided.
- (i) Each of these increases in project cost estimates will be submitted by the Contractor for approval by the NASA Contracting Officer.
 - (ii) The total of the estimates of all work awarded and any to be awarded to complete an action under consideration does not exceed the amount of the "Approved Program Plan".

- (iii) The Facility Project Cost Estimate of any individual Minor Revitalization and Construction Project is less than \$10,000,000.
 - (iv) The intent and scope of the project remain as indicated on the approved NASA Form 1509.
- (2) Project Changes Requiring Headquarters Approval. Any changes in intent or scope, or requiring an increase above the Approved Facility Project Cost Estimate and the introduction of a new, additional, or substitute project will require advance concurrence.
 - (i) For MRC Projects with a cost estimate increase of more than 25 percent, advance concurrence is required by the cognizant NASA Mission Directorate and approval by the Director, Facilities Engineering Division, by means of appropriate revised NASA Form 1509 or documents applicable.
 - (ii) For ECR Projects with a cost estimate increase of 10 percent, advance concurrence is required by the cognizant NASA Mission Directorate and approval by the Director, Environment Management Division by means of appropriate revised NASA Form 1509 or documents applicable.
- (3) Reporting. As each project is implemented, commitments, obligations, schedule for completion etc., are to be reported against its assigned Project Number.
- (b) Task Orders shall reference the approved NASA Form 1509 or other applicable approved NASA Form (e.g., 799PD, 799EUL, etc.), to be observed by the Contractor in connection with the work to be performed under the task orders pursuant to C-1, paragraph (c) herein.
- (c) This clause is intended to satisfy with the requirements of [1852.245-82, Occupancy Management Requirements \(SEP 2017\)](#), and [1852.245-83, Real Property Management Requirements \(JAN 2011\)](#).

C-5 EXCESS AND SURPLUS EQUIPMENT

The Contractor shall handle Excess and Surplus Equipment consistent with the overall intent of the non-inherently Governmental portions of [NPD 4300.1, NASA Personal Property Disposal Policy](#) and [NPR 4300.1, NASA Personal Property Disposal Procedural Requirement](#), with the exception of Section P.2., Applicability, paragraph c., of the NPR which does not apply to the Contractor. (Mod 5, effective 10/1/20)

C-6 CONFERENCES AND MEETINGS

(a) Hosting Conferences and Meetings.

The Contractor, in carrying out its responsibilities under this Contract, may propose or be asked to host, organize, sponsor, or otherwise manage conferences, Agency or Government wide meetings, or other similar events that primarily concern NASA-sponsored work as defined in C-1 (a). An Implementation Plan describing the Contractor's approach in meeting

the intent of [NPR 9770.1, NASA Conference Approval and Reporting](#), will be requested and developed as specified in CDRL FM-015.

[END OF SECTION]

SECTION D—PACKAGING AND MARKING

D-1 PACKAGING AND MARKING

Packing, packaging and marking requirements, if applicable, are included in task orders under this Contract.

The following Contract clauses pertinent to this section are hereby incorporated by reference:

I. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

CLAUSE NUMBER	DATE	TITLE
<u>1852.211-70</u>	<u>SEP 2005</u>	<u>PACKAGING, HANDLING, AND TRANSPORTATION</u>

[END OF SECTION]

SECTION E—INSPECTION AND ACCEPTANCE

E-1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

The following Contract clauses pertinent to this section are hereby incorporated by reference:

FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
<u>52.246-9</u>	<u>APR 1984</u>	<u>INSPECTION OF R&D (SHORT FORM)</u>
<u>52.246-11</u>	<u>DEC 2014</u>	<u>HIGHER-LEVEL CONTRACT QUALITY REQUIREMENT</u>

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

<u>Title</u>	<u>Number</u>	<u>Date</u>	<u>Tailoring</u>
AS	9100D	2016	None

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

CLAUSE NUMBER	DATE	TITLE
<u>1852.246-71</u>	<u>OCT 1988</u>	<u>GOVERNMENT CONTRACT QUALITY ASSURANCE FUNCTIONS</u>

[Fill-in: To be determined]

[END OF SECTION]

SECTION F—DELIVERIES OR PERFORMANCE

F-1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

The following Contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
<u>52.242-15</u>	<u>AUG 1989</u>	<u>STOP-WORK ORDER (ALT I)(APR 1984) (Mod 4)</u>

F-2 TERM OF THIS CONTRACT

The period of performance is from October 1, 2018, through September 30, 2023. The contract may be extended through the execution of options per B-9, Award Term, and F-5, Options to Extend the Term of the Contract. The Contractor shall not perform work beyond the terminal date of this Contract, irrespective of the fact that the anticipated completion date of a task order may extend beyond such terminal date.

F-3 DELIVERIES

Delivery instructions shall be specified in each task order, as appropriate. Government Bills of Lading (GBL) may be used as requested by the Contractor and approved by the NASA Transportation Officer. All GBLs used for the purpose of satisfying the requirements of the International Traffic in Arms Regulations, [22 CFR 126.4](#), must be reviewed and approved by the Export Administrator in the NASA Management Office at JPL or the NASA Export Administrator in the Office of International and Interagency Relations at NASA Headquarters if needed. Shipment of deliverable items under this Contract are FOB destination, except if provided otherwise in a particular task order.

F-4 GENERAL REPORTS AND PLANS

The Contractor shall furnish NASA such managerial, financial, technical, progress, and other reports as appropriate for the activities or class of mission carried out under this Contract.

- (1) Scientific and Technical Reports. See H-31, Protection of Scientific and Technical Information of National Interest.
- (2) Public Reports. Reports prepared primarily for members of the public generally, such as general educational and public information reports, shall be subject to the provisions of H-11, External Communications and Visitor Requests from Known Elected Officials and Those Known to Be Seeking Elected Office.

- (3) Distribution Control. The Contracting Officer may require the Contractor to cease the external distribution under this Contract, of any reports within a regular or report series, or of any individual report, and any work in connection with such external distribution. However, in such event the Contractor shall remain free to publish, at the Contractor's own expense, any information or data contained in such report(s), subject to any limitations contained within this Contract, in bilaterally accepted task orders, or in the laws or regulations of the United States.

The term "external distribution", as used in this paragraph, means any distribution except distribution to the Contractor's own personnel, to present and prospective subcontractors of the Contractor, and to NASA personnel. The term "distributed externally" has a like meaning.

- (4) NASA Publications. NASA may elect to publish in its own media and formats any of the information contained in reports prepared by the Contractor. When in the judgment of the program Associate Administrator or organizational Chief (e.g., Chief Technologist, Chief Engineer), or designee, information in any such reports should also be published in NASA media and format, the Contractor will make such revisions as are requested, to conform the reports to NASA requirements. Copies of all reports within paragraph (2) above, prepared by the Contractor, shall be forwarded to the program Associate Administrator or organizational Chief (e.g., Chief Technologist, Chief Engineer), as soon as possible after preparation
- (5) Contractor Distribution. Nothing herein shall be deemed to restrict the right of the Contractor to initiate, prepare and distribute to its own personnel, its present or potential subcontractors, and to NASA personnel such reports as it may deem necessary or desirable for the performance of work under this Contract, subject to Federal laws and regulations, including U.S. export laws and regulations.
- (6) Overrun Reports. Per CDRL CM-001, the Contractor shall submit electronically the status of task orders where expenditures exceed funds allotted by greater than \$1,000 and the Contractor's plan of action on each such task order.
- (7) Workforce Reports. Per CDRL HR-003, the Contractor shall, by the 90th day after expiration of the yearly Affirmative Action Plan (AAP), provide to NASA Headquarters Office of Education, a copy of the new Affirmative Action Plan, prepared in accordance with the requirements of [41 CFR 60-2, Subpart B](#), including a copy of the Organizational Profile ([41 CFR 60-2.11](#)), and the section containing a review of the results of actions taken during the previous Affirmative Action Plan year.
- (8) Caltech Transfers. Per CDRL FM-002, the Contractor shall submit a quarterly report to the Contracting Officer describing the tasks being performed at JPL under Caltech Transfers, in a format to be approved by the Contracting Officer.
- (9) New Technology Reporting. The requirements of the New Technology Reporting Clause of this Contract are further defined as follows:

- (i) All New Technology Reports, inventions, disclosures, patent applications, requests for waivers, and intellectual property licenses year-end data shall be entered no later than 30 days following the end of the Fiscal Year.
- (ii) NASA Technology Tracking System or (NTTS).
 - (A) Per CDRL IP-004, the Contractor shall enter all available data on a monthly basis to the Technology Tracking System database (not later than the fifteenth of the month for which the data pertains) in support of Federal Agency reporting requirements under section 11 of the Stevenson-Wydler Technology Innovation Act of 1980, as amended (15 U.S.C. 3710). These data shall include, but are not limited to, information regarding: subject inventions including software (FAR clause [52.227-11](#) as modified by NASA FAR Supplement clause [1852.227-11](#)); decision on election of title to subject inventions; patent applications filed on subject inventions, patents issued on subject inventions, copyrights asserted on subject inventions (software); copyright and patent licenses executed and royalties received for subject inventions; subcontracts issued under this Contract; partnerships established; private entity contributions to each partnership (e.g., funds applied and/or dollar value of personnel, facilities or equipment, etc.); and success stories identified during the period.
 - (B) The Contractor shall ensure that data associated with each reportable item (e.g., NASA tracking number, innovator names, subject title, subsequent patent filing, and licensing information, subsequent copyright licensing information) is timely entered into the NASA Technology Tracking System database. The Contracting Officer may provide the Contractor additional guidance from time to time as necessary.
 - (C) Per CDRL IP-003, the Contractor shall submit an annual Technology Transfer Plan by September 30 of each year. This Plan will include information on processes, personnel and initiatives expected to be implemented in the coming year to encourage the transfer of technology outside the agency, and how these will support NASA's overarching technology transfer goals. This Plan will include details sufficient to provide expertise to NASA to supplement technology transfer efforts agency-wide.
 - (D) Per CDRL IP-005, the Contractor shall submit an annual Technology Transfer Report by January 31 of each year. This Report will include a summary of metrics derived from data entered into the NTTS system for the prior fiscal year and notable accomplishments relating to technology transfer efforts. The Report will include details sufficient to identify significant differences, if any, between expected and actual results of these efforts, as well as lessons learned to guide NASA in its technology transfer efforts agency-wide.

F-5 OPTION TO EXTEND THE TERM OF THE CONTRACT (MOD 4)

- (a) The Government may extend the term of this contract by written notice to the Contractor within 60 days before the end of the contract; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 90 days before the contract expires. The preliminary notice does not commit the Government to an extension.
- (b) If the Government exercises this option, the extended contract shall be considered to include this option clause.
- (c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 10 years.
- (d) The Contractor may be awarded option periods in accordance with B-9, Award Term, and the Attachment G, Award Term Evaluation Plan.

[END OF SECTION]

SECTION G—CONTRACT ADMINISTRATION DATA

G-1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

The following Contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
<u>52.204-19</u>	<u>DEC 2014</u>	<u>INCORPORATION BY REFERENCE OF REPRESENTATIONS AND CERTIFICATIONS</u>

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

CLAUSE NUMBER	DATE	TITLE
<u>1852.216-72</u>	<u>AUG 2017</u>	<u>AWARD TERM</u>
<u>1852.223-71</u>	<u>APR 2015</u>	<u>AUTHORIZATION FOR RADIO FREQUENCY USE</u>
<u>1852.227-11</u>	<u>APR 2015</u>	<u>PATENT RIGHTS—OWNERSHIP BY THE CONTRACTOR</u>
<u>1852.227-70</u>	<u>APR 2015</u>	<u>NEW TECHNOLOGY—OTHER THAN A SMALL BUSINESS FIRM OR NONPROFIT ORGANIZATION</u>
<u>1852.227-72</u>	<u>APR 2015</u>	<u>DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE</u>
<u>1852.242-73</u>	<u>NOV 2004</u>	<u>NASA CONTRACTOR FINANCIAL MANAGEMENT REPORTING</u>
<u>1852.245-73</u>	<u>JAN 2017</u>	<u>FINANCIAL REPORTING OF NASA PROPERTY IN THE CUSTODY OF CONTRACTORS</u> [CDRL PR-003]
<u>1852.245-74</u>	<u>JAN 2011</u>	<u>IDENTIFICATION AND MARKING OF GOVERNMENT EQUIPMENT</u>
<u>1852.245-75</u>	<u>JAN 2011</u>	<u>PROPERTY MANAGEMENT CHANGES</u>
<u>1852.245-79</u>	<u>JAN 2011</u>	<u>RECORDS AND DISPOSITION REPORTS FOR GOVERNMENT PROPERTY WITH POTENTIAL HISTORIC OR SIGNIFICANT REAL VALUE</u>

CLAUSE NUMBER	DATE	TITLE
<u>1852.245-82</u>	<u>SEP 2017</u>	<u>OCCUPANCY MANAGEMENT REQUIREMENTS</u>
<u>1852.245-83</u>	<u>JAN 2011</u>	<u>REAL PROPERTY MANAGEMENT REQUIREMENTS</u>

G-2 COST SEGREGATION AND REPORTING

- (a) General. Costs under this Contract will be segregated and reported as set forth below. The Contractor shall transmit such reports electronically or by hard copy, as requested by the Government.
- (1) Research and Development Work. The Contractor shall segregate, account, summarize, and report the accrued costs for each program Work Breakdown Structure (WBS) in accordance with NASA Procedural Requirements (NPR) 9501.2, NASA Contractor Financial Management Reporting, as incorporated into this Contract pursuant to G-2, paragraph (a)(7), by each task order for all work performed pursuant to C-1 paragraphs (a) and (b) herein. The Contractor shall not transfer costs between task orders except:
 - (i) in those limited instances where the costs are found to have been originally charged to an incorrect JPL Project/Task Number due to a mistake or error, provided that sufficient documentation is maintained by the Contractor to demonstrate that the transfer was indeed required to correct a mistake or error, or
 - (ii) with prior written approval or at the written request of the Contracting Officer, or
 - (iii) to allow for the cost transfer of unused materials within the period of performance of the originating Task Order.
 - (2) Related Facilities Management/Maintenance. The Contractor shall segregate, account, summarize, and report the accrued costs for each task order and each program Work Breakdown Structure (WBS) in accordance with NASA Procedural Requirements (NPR) 9250.1, Property, Plant and Equipment and Operating Materials and Supplies, as incorporated into this Contract pursuant to G-2, paragraph (a)(8) for all work performed pursuant to C-1, paragraph (c)(1) herein. Facilities maintenance costs shall be reported as requested by the Contracting Officer to assist NASA in complying with its CFO Act responsibilities.
 - (3) Closed Appropriations. Pursuant to the National Defense Authorization Act for Fiscal Year 1991, 104 Stat. 1485, P.L. 101-510, Nov. 5, 1990, all expired appropriation accounts at NASA Headquarters will be closed on September 30th of the fifth (5th) fiscal year after the end of the period of availability for obligation. The Contractor shall track closed appropriation accounts in the Contractor's accounting system in order to support the aforementioned closeout process.

- (4) Uncosted Obligations. A phased costing plan will be provided for direct funded task orders at such times and in such formats as directed by NASA.
- (5) Identification of Excess Funds on Inactive Task Orders. Per CDRL CM-003, this report will identify excess funds greater than \$1,000 on inactive task orders whose period of performance end dates are beyond 120 days past. It is due 30 days after the close of the previous quarter.
- (6) NASA Contractor Financial Management Report. In complying with the reporting requirements of [NFS 1852.242-73](#), the Contractor will submit NASA Contractor Financial Management Reports as follows:
 - (i) Per CDRL FM-010, monthly NF533 Reports will be submitted ten (10) work days after the end of the Contractor's fiscal month (the initial report will be submitted ten (10) work days following the end of the Contractor's fiscal month after the initial incurrence of cost). Each report will be comprised of a one page summary report at the total (prime) Contract level by major cost category (i.e., direct labor, travel, services, procurements, Caltech Interdivisional Authorizations, benefits and applied burden). The Contractor will also provide NF533M data for each task order on a task order basis.
 - (ii) Per CDRL FM-011, quarterly NF533 Reports will be submitted 15 calendar days prior to the beginning of the Contractor's fiscal quarter being reported (the initial report will be submitted within 30 work days after award of the Contract). Each report will be comprised of a one page summary report at the total (prime) Contract level by major cost category (i.e., direct labor, travel, services, procurements, Caltech Interdivisional Authorizations, and benefits and applied burden), and NF533Q data for each task order on a task order basis.
 - (iii) The NF533 reports will not include narrative reporting, fee reporting at the task order level, or potential termination liability. Fee reporting may be required by the government when an incentive fee is applicable to a task order.
 - (iv) The NF533M will be submitted for three months after the period of performance of this Contract is completed. A significant amount of time may pass between the end of the Contract and final closeout. If no significant additional costs are being incurred or anticipated after the first quarter following the end of the Contract, the Contracting Officer may reduce or suspend NF533 reporting requirements. If the final cost of the Contract changes after the submission of the "final" report, the Contractor must submit a revised NF533 in the month the change is recognized.
 - (v) The NF533 will be submitted electronically. The electronic format will include cost and workforce data in a manner consistent with the current formats.
 - (vi) The NF533 reports are the official cost and workforce document for actual and estimated cost performance. Any financial data submitted to NASA in addition to the NF533 must be based upon data from the Contractor's financial system and reconcilable to that financial system as requested by the Contracting Officer.

- (vii) The Contractor shall use the WBS breakout on the task orders as the lower level detail for the purposes for [NFS 1852.242-73](#).
- (viii) The requirement in [NFS 1852.242-73](#) regarding subcontractor cost data is deemed to have been met by the Contractor accurately reflecting subcontractor NF533M and other cost data in the proper reporting categories on the Contractor's Form NF533 report.
- (7) Financial Reporting. [NPR 9501.2, NASA Contractor Financial Management Reporting](#), is incorporated into this Contract with the following understandings:
 - (i) To satisfy the requirements of Section 3.6, Narrative Remarks, the Contractor shall provide narrative reporting following the submittal of NF 533 reports to the extent and in such formats as requested by NASA as part of its Continuous Monitoring Program.
- (8) Property, Plant, and Equipment and Operating Materials and Supplies. [NPR 9250.1, Property, Plant, and Equipment and Operating Materials and Supplies](#), is incorporated into this Contract with the clarifications identified in the Implementation Plan located in Attachment A.

G-3 PROPERTY REPORTING

Per CDRL PR-001, the Contractor will furnish a current itemized listing of all NASA-owned property accountable under this Contract, including subcontractors and a separate current listing of NASA property in the possession of Instituto Nacional de Tecnica Aeroespacial (INTA) and the Commonwealth Scientific and Industrial Research Organization (CSIRO), annually, no later than October 30, in the format requested by the NMO Industrial Property Officer. This listing should include NASA-owned Construction in Progress at the project level, Contract Work in Progress at the project level and software as required by [NFS 1845.7101-1](#).

G-4 PHYSICAL INVENTORY OF CAPITAL PERSONAL PROPERTY NFS 1852.245-78 (AUG 2015) (MOD 4)

The parties agree that:

- (a) The Contractor's annual property inventory, and its associated processes and procedures, satisfy paragraphs (a)(1)-(2) inventory requirements.
- (b) The NASA Industrial Property Officer's annual validation of the Contractor's property system satisfies the paragraph (b) written authorization and is considered the approved waiver.
- (c) The Contractor's monthly Contractor Held Assets Tracking System (CHATS) and NASA Form 1018 (NF 1018) reports satisfy the reporting requirement in paragraphs (c)(1)-(2).

G-5 TASK ORDERING PROCEDURE (NFS 1852.216-80) (OCT 1996)

- (a) Only the Contracting Officer may issue task orders to the Contractor, providing specific authorization or direction to perform work within the scope of the contract and as specified in the schedule. The Contractor may incur costs under this contract in performance of task orders and task order modifications issued in accordance with this clause. No other costs are authorized unless otherwise specified in the contract or expressly authorized by the Contracting Officer.
- (b) Prior to issuing a task order, the Contracting Officer shall provide the Contractor with the following data:
 - (1) A functional description of the work identifying the objectives or results desired from the contemplated task order.
 - (2) Proposed performance standards to be used as criteria for determining whether the work requirements have been met.
 - (3) A request for a task plan from the Contractor to include the technical approach, period of performance, appropriate cost information, and any other information required to determine the reasonableness of the Contractor's proposal.
- (c) Within 60 calendar days after receipt of the Contracting Officer's request, the Contractor shall submit a task plan conforming to the request.
- (d) After review and any necessary discussions, the Contracting Officer may issue a task order to the Contractor containing, as a minimum, the following:
 - (1) Date of the order.
 - (2) Contract number and order number.
 - (3) Functional description of the work identifying the objectives or results desired from the task order, including special instructions or other information necessary for performance of the task.
 - (4) Performance standards, and where appropriate, quality assurance standards.
 - (5) Maximum dollar amount authorized (cost and fee or price). This includes allocation of award fee among award fee periods, if applicable.
 - (6) Any other resources (travel, materials, equipment, facilities, etc.) authorized.
 - (7) Delivery/performance schedule including start and end dates.
 - (8) If contract funding is by individual task order, accounting and appropriation data.
- (e) The Contractor shall provide acknowledgment of receipt to the Contracting Officer within 7 calendar days after receipt of the task order.

- (f) If time constraints do not permit issuance of a fully defined task order in accordance with the procedures described in paragraphs (a) through (d), a task order which includes a ceiling price may be issued.
- (g) The Contracting Officer may amend tasks in the same manner in which they were issued. (Mod 4)
- (h) In the event of a conflict between the requirements of the task order and the Contractor's approved task plan, the task order shall prevail.

(End of Clause)

G-6 TECHNICAL AUTHORITY REQUIREMENTS

Technical Authority (TA) applies to all phases of the life cycle for the NASA projects, programs and missions executed under the current Contract unless documented in the specific task order.

- (a) **Delegation of Technical Authority to the Contractor.** The NASA Engineering TA (ETA) and Safety and Mission Assurance (SMA) TA leads (Chief Engineer and Chief of SMA) delegate to the Contractor's Laboratory Director the TA responsibilities of Center Directors defined in [NPR 7120.5](#) and other NASA directives and standards applied to this Contract, subject to the requirements and limitations detailed below. The Contractor's Laboratory Director may delegate ETA and SMA TA responsibilities to qualified individuals within the Contractor's organization with a line of reporting to the Contractor's Laboratory Director that is independent from programmatic authority reporting. The NASA Chief Health and Medical Officer will retain all TA for Health and Medical delegations.

As part of this TA, the Contractor has certain authority to (a) deviate from certain requirements defined in directives and standards identified in this Contract; and (b) provide concurrence to risk acceptance decisions regarding safety and mission success based on the technical merits of the case as required by [NPD 1000.0](#) and [NPR 8000.4](#).

- (b) **Technical Authority Responsibilities.** Common TA responsibilities are specified in [NPR 7120.5](#) and [NASA-STD 8709.20](#). The following sections include the ETA and SMA TA unique responsibilities and authority to grant relief from requirements.
 - (1) **Engineering Technical Authority Responsibilities.** The Contractor shall implement the ETA in accordance with NASA's hierarchical authority and decision-making delegations per the requirements in the NASA directives and standards applicable to this Contract. The Contractor shall develop an ETA Implementation Plan (IP) describing how it will execute ETA functions. This plan shall be approved by the NASA Chief Engineer. The ETA IP shall be prepared in accordance with G-6, paragraph (c), and address the NASA directives, standards, and ETA requirements specified in this Contract.

Key components of the ETA IP will include the Contractor's approach to appointing and training Project ETAs, assuring that ETAs have proactive oversight and support, and utilizing Lead Discipline Engineers; conducting engineering analysis, assessing risks and resolving issues; addressing cross-project technical issues; and providing periodic status and risk/waiver reports to the NASA Chief Engineer and agency stakeholders. The ETA IP will also cover how the contractor intends to support NASA's overall efforts to improve engineering and technical processes and capabilities.

Delegation of Office of the Chief Engineer (OCE) Requirements: Table 1 identifies the NPDs and NPRs containing OCE requirements and standards for which the NASA Chief Engineer will retain authority for granting relief from requirements (i.e., waiver, deviation, and tailoring), and those which the NASA Chief Engineer delegates to the Contractor's Laboratory Director.

Table 1 – Delegation of OCE Requirements

NASA Chief Engineer retains authority for granting relief from requirements contained in the following:		
<u>NPD 7120.4</u>	<u>NASA Engineering and Program/Project Management Policy</u>	Not Delegated
<u>NPD 7120.6</u>	<u>Knowledge Policy on Programs and Projects</u>	Not Delegated
<u>NPR 7120.8</u>	<u>NASA Research and Technology Program and Project Management Requirements</u>	Not Delegated
<u>NPR 7120.10</u>	<u>Technical Standards for NASA Programs and Projects</u>	Not Delegated
The Contractor's Laboratory Director is delegated the authority for dispositioning requests for relief to the requirements for some parts of the following documents as noted:		
<u>NPR 7120.5</u>	<u>NASA Space Flight Program and Project Management Procedural Requirements</u>	Specified in Appendix C Compliance Matrix - specifies which requirements are delegated to CD, includes the Contractor's Laboratory Director
<u>NPR 7123.1</u>	<u>NASA Systems Engineering Processes and Requirements</u>	Requirements relief delegation authority is provided in Section 2.2 and Appendix H Compliance Matrices.

<u>NPR 7150.2</u>	<u>NASA Software Engineering Requirements</u>	Per Appendix C Requirements Mapping Matrix - Requirements are delegated with the exception of requirements reserved at the NASA Headquarters level as indicated in Appendix C (indicated in the technical authority column in the matrix), with TA approval as specified in the NPR.
The Contractor's Laboratory Director is delegated the authority for dispositioning requests for relief to requirements contained in engineering Technical Standards.		
Various engineering technical standards (reference <u>NPR 7120.10</u>)	<u>Technical Standards</u>	Delegated

- (2) **Safety and Mission Assurance Technical Authority Responsibilities.** The Contractor shall implement the SMA TA in accordance with NASA's hierarchical authority and decision-making delegations per the requirements in the NASA directives and standards applicable to this Contract. The Contractor shall develop an SMA TA IP describing how it will execute SMA TA functions. This plan shall be approved by the NASA Chief of SMA. The SMA TA IP shall be prepared in accordance with G-6, paragraph (c), and address the NASA directives, standards, and SMA requirements specified in this Contract.

Table 2 and Table 3 identify the NPDs, NPRs and NASA-STDs containing SMA requirements and conditions for which the NASA Chief of SMA retains authority for granting relief from requirements (i.e., waiver, deviation, and tailoring), and those which the NASA Chief of SMA delegates the authority to the Contractor. Requests for relief from any NASA SMA requirements must be submitted with appropriate justifications. TA for NASA SMA directives and standards that are not listed in Table 2 but included in this Contract are not delegated to the Contractor.

In cases where the authority to grant relief from requirements is not delegated, the Contractor shall obtain such relief from the NASA Chief of SMA via the NASA Management Office. If relief from a non-delegated requirement results in increased risk to safety or mission success, approval of the relief requires formal acceptance of the risk by the acquiring organization, e.g., NASA Mission Directorate.

Cases where the Contractor command media do not comply with SMA requirements applicable to the Contract, whether delegated or non-delegated, shall be documented as exceptions in the relevant document's IP, subject to approval by NASA, as defined in G-6, paragraph (c).

The Contractor shall make available approval of all relief that it grants from contractual NASA requirements as defined in CDRL SMS-006. The Contractor shall maintain and provide NASA access to the necessary information, such as waivers, problem failure reports, and other documentation, that will be used to ensure that the Contractor has defined or adopted requirements, policies, and plans that comply with the NASA requirements in this Contract.

NASA retains the authority to specify changes to the delegation of authority to grant relief specified in Table 2 in case (a) NPDs, NPRs, and NASA-STDs applicable to this Contract are added, removed, or substituted; or (b) the delegation of this authority is changed Agency-wide.

Table 2 – Delegation of Office of Safety and Mission Assurance (OSMA) Requirements

NASA Chief of SMA retains authority for granting relief from requirements contained in the following:		
<u>NPR 8705.2</u>	<u>Human-Rating Requirements for Space Systems</u>	Not delegated
<u>NPR 8705.4</u>	<u>Risk Classification for NASA Payloads</u>	Not delegated
<u>NPR 8715.6</u>	<u>NASA Procedural Requirements for Limiting Orbital Debris</u>	Not delegated
<u>NPR 8715.3</u>	<u>NASA General Safety Program Requirements</u>	Not delegated
<u>NPD 8020.7</u>	<u>Biological Contamination Control for Outbound and Inbound Planetary Spacecraft</u>	Not delegated
<u>NPR 8020.12</u>	<u>Planetary Protection Provisions for Robotic Extraterrestrial Missions</u>	Not delegated
<u>NASA-STD-8719.14</u>	<u>Process for Limiting Orbital Debris</u>	Not delegated

The Contractor's Laboratory Director is delegated the authority for dispositioning requests for relief to requirements contained in the following, except when conditions in Table 3 apply:		
<u>NPD 8730.1</u>	<u>Metrology and Calibration, Attachment A</u>	Delegated
<u>NPD 8730.5</u>	<u>NASA Quality Assurance Program Policy</u>	Delegated
<u>NPD 8720.1</u>	<u>NASA Reliability and Maintainability (R&M) Program Policy</u>	Delegated
<u>NPD 8730.2</u>	<u>NASA Parts Policy</u>	Delegated
<u>NPR 8715.7</u>	<u>Expendable Launch Vehicle (ELV) Payload Safety Program</u>	Delegated
<u>NPR 8705.5</u>	<u>Technical Probabilistic Risk Assessment (PRA) Procedures for Safety and Mission Success for NASA Programs and Projects</u>	Delegated
<u>NASA-STD-8719.24</u>	<u>NASA Expendable Launch Vehicle Payload Safety Requirements</u>	Delegated
<u>NASA-STD-8729.1</u>	<u>NASA Reliability and Maintainability (R&M) Standard for Spaceflight and Support Systems</u>	Delegated
<u>NASA-STD 8739.1</u>	<u>Workmanship Standard for Polymeric Application on Electronic Assemblies</u>	Delegated
<u>NASA-STD 8739.4</u>	<u>Workmanship Standard for Crimping, Interconnecting Cables, Harnesses, and Wiring</u>	Delegated
<u>NASA-STD-8739.5</u>	<u>Fiber Optic Terminations, Cable Assemblies, and Installation</u>	Delegated
<u>NASA-STD-8739.6</u>	<u>Implementation Requirements for NASA Workmanship Standards</u>	Delegated
<u>NASA-STD-8739.8</u>	<u>Software Assurance Standard</u>	Delegated, with the exception of paragraph numbers 5.1.2.2 and 7.2.1.

<u>NASA-STD-8739.9</u>	<u>Software Formal Inspections Standard</u>	Delegated
<u>NASA-STD-8739.10</u>	<u>Electrical, Electronic, and Electromechanical (EEE) Parts Assurance Standard</u>	Delegated
<u>NASA-STD-8719.13</u>	<u>Software Safety Standard</u>	Delegated, with the exception of requirement numbers SSS-001, SSS-004 and SSS-005.

The authority to disposition requests for relief to requirement documents listed in Table 2 is limited for the situations listed in Table 3.

Table 3 – Limitations to the authority to provide relief to delegated requirements

The Contractor's authority to provide relief to delegated requirement documents is limited for the following situations:	
Condition	Authority
Substitution of or relief from an entire standard (e.g., NASA SMA mandatory standard or mandatory Voluntary Consensus Standard such as ANSI STD) for use by one or multiple projects.	Authority is subject to review by the Chief of SMA via the NASA Management Office.
Relief from requirements levied on the Contractor's Laboratory Director or on the SMA TA.	Not delegated
Relief from requirements which are being implemented jointly by NASA and another agency	Authority is subject to review by the Chief of SMA via the NASA Management Office.
Relief from higher level quality standards required by FAR Part 46.	Authority is subject to review by the Chief of SMA via the NASA Management Office.

(3) Health and Medical Responsibilities. No delegations.

- (c) **Technical Authority Implementation Plans.** The Contractor shall develop IPs for both the ETA and the SMA TA. The IPs shall address the NASA requirements specified in this Contract, which include the applicable NASA directives, standards, and the TA requirements contained herein. These IPs shall be approved by the respective NASA Chiefs for Engineering and SMA. The IPs shall also describe the (a) TA roles, responsibilities, and interfaces with

NASA lead TA organizations; (b) procedures for granting relief from requirements; and (c) provisions to ensure disclosure to NASA of the relief from contractual requirements granted by the TAs.

G-7 FUNDS PROCEDURE FOR TERMINATION OF TASK ORDERS

- (a) In the event the Government terminates a task order and the funds allotted thereto are insufficient to cover termination costs, the Contractor shall notify the Contracting Officer of its estimate of the additional funds that it believes to be necessary to cover reasonable, allocable, and allowable task order termination costs as follows:
 - (1) Within 60 days of the notice of termination the Contractor shall provide an initial estimate of the total amount of such funds required, and shall also identify those funds legally available for removal from other task orders which the Contractor recommends be used to cover such estimated total termination costs; and
 - (2) Within 180 days of the notice of termination, the Contractor shall supplement the initial estimate by providing a funds requirement proposal, with supporting detail for each cost element, and with any further recommendations regarding a source of funds.
- (b) Upon receipt of the initial estimate described in (a)(1) above the Contracting Officer will proceed with the actions necessary to support obtaining the requested funds.
- (c) Upon receipt of the funds requirement proposal described under (a)(2) above, the Contracting Officer will perform an analysis of such proposal, and the parties will promptly pursue agreement as to the amount of funds mutually determined to be necessary to cover the termination costs.
- (d) Within 90 days of receipt of the Contractor's funds requirement proposal described under (a)(2) above, the Contracting Officer will provide the Contractor direction on the source of funds to cover task order termination costs. In the event that the Contracting Officer does not provide such specific redirection of task order funds or provide other unobligated funds within the above-noted 90-day period, the Contracting Officer shall be deemed to have authorized the redirection of the funds as proposed by the Contractor in its notification.
- (e) The Contracting Officer will document the transfer of funds by the subsequent issuance of a task order amendment.
- (f) Nothing in G-7 shall be deemed to limit or otherwise affect the rights of the Contractor under paragraph (k) of Clause I-12, Limitation of Cost (FAR 52.232-20); Limitation of Funds (FAR 52.232-22) (Deviation).
- (g) In no event shall Construction of Facilities appropriated funds be used for termination costs other than for the authorized CoF project(s).

G-8 IDENTIFICATION AND MARKING OF GOVERNMENT EQUIPMENT

[NFS 1852.245-74, "Identification and Marking of Government Equipment," dated January 2011](#), is incorporated into this Contract with the understanding that the Contractor's established practice, methods and procedures are deemed to satisfy paragraphs (a)–(f) for identifying, marking, reporting, procuring, addressing, and delivering Government equipment.

G-9 SMALL BUSINESS SUBCONTRACTING PLAN

- (a) Attachment D sets forth the Contractor's Small Business Subcontracting Plan as agreed to by the Parties. The Attachment D goals are projected and are subject to adjustment by the parties if the annual NASA appropriation budget by Congress deviates by any amount other than what is projected. Should there be changes to an annual appropriation budget that impacts the stated projected dollar goals by 10% or more, the Parties reserve the right to initiate renegotiation of the goals within 45 days after finalization of the NASA appropriation by Congress. The tables will be updated by a bilateral Modification to the Contract as required to capture the agreed to percentage and dollar goals. Further, in Attachment D:
- (1) The goals for the Table 3 Option Years following the 5-Year Base Period (i.e., Option Years FY2024–FY2028) are for planning purposes only and shall be negotiated as mutually agreed to between the Parties in two subsequent phases. Negotiations for Phase 1 (for Option Years 2024–2025) will commence at the beginning of FY2021 and for Phase 2 (for Option Years 2026–2028) at the beginning of FY2023.
 - (2) A statement of goals for the Phase 1/Phase 2 Options Years, expressed in terms of dollars and percentages for the amount planned (i) to be subcontracted to large business (LB); (ii) to be subcontracted to small business (SB); (iii) to be subcontracted to small disadvantaged business (SDB); (iv) to be subcontracted to woman-owned small business (WOSB); (v) to be subcontracted to Historically Black Colleges and Universities/Minority Institutions (HBCU/MI); (vi) to be subcontracted to historically underutilized business zones (HUBZones) SB; (vii) to be subcontracted to veteran-owned small business (VOSB); and (viii) to be subcontracted to service-disabled veteran-owned small business (SDVOSB) will be submitted to the Contracting Officer sixty days prior to the end of the fiscal year preceding the Phase 1/Phase 2 negotiation period so that goals can be bilaterally agreed to.
- (b) In applying paragraph (d)(9) of [FAR 52.219-9, Small Business Subcontracting Plan \(JAN 2017\)](#), it is understood and agreed that the requirement that the Contractor require subcontractors (except small business concerns) who receive subcontracts in excess of \$700,000 (\$1,500,000 for construction of any public facility) to adopt a similar plan only applies to subcontracts which have subcontracting possibilities. In those cases where the subcontract meets the thresholds but no plan is adopted, the subcontract file shall document why that is the case.
- (c) The standards set forth in paragraph (b) above shall also apply to letter subcontracts. However, in acknowledgment of the urgency associated with letter-contract procurements, the small business subcontracting plans included in letter contract files may be preliminary

in nature. Furthermore, in limited cases of extreme urgency, development of such preliminary plans for letter contracts may take place after letter-contract award, but in such instances the Contractor shall ensure that the plans are established as soon as possible in order to maximize achievement of Small Business procurement goals.

- (d) In applying paragraph (k) of said [FAR 52.219-9, Small Business Subcontracting Plan](#), it is understood and agreed that the failure of a subcontractor to comply in good faith with the clause of its subcontract entitled “Utilization of Small Business Concerns”, or with any plan required to be included in its subcontract, shall be a material breach of such subcontract, but that such failure on the part of the subcontractor shall not itself constitute a breach of this prime Contract. However, a failure of the Contractor to comply in good faith with such clause in this Contract, or with any plan required to be included in this Contract, shall be a material breach of this Contract.
- (e) Per CDRL SU-001, the Contractor shall as soon as practicable notify the Contracting Officer of any material breach, known to the Contractor, of a subcontract caused by failure of a subcontractor to comply in good faith with its Small Business Subcontracting Plan.

G-10 OFFICE OF THE CHIEF ENGINEER

The Contractor is responsible for managing Program/Project Management and Systems Engineering at the Jet Propulsion Laboratory consistent with the Engineering Technical Authority (ETA) in G-6 and the Implementation Plan (IP) provided in Attachment A. Updates, additions, and deletions to the Office of the Chief Engineer (OCE) directives listed in the IP will be handled in accordance with G-13, entitled “NASA Directives and Government Policies.”

G-11 USE OF DEPARTMENT OF DEFENSE SERVICES

The Contractor shall, to the extent required by the Contracting Officer, utilize Department of Defense audit, source inspection and property administration services. Other administrative services of the Department of Defense, which may be available to the Contractor, shall be utilized to the extent deemed practicable by the Contractor.

G-12 REFERENCES TO FAR “RIGHTS IN DATA” CLAUSE

References in [FAR 52.227-16, Additional Data Requirements \(JUN 1987\)](#), to the FAR Clause at 52.227-14, Rights in Data (MAY 2014), shall be deemed to refer to [FAR 52.227-14, Rights in Data—General \(MAY 2014\)\(ALT II, III, V\)\(DEC 2007\)](#), of this Contract.

G-13 NASA DIRECTIVES AND GOVERNMENT POLICIES

- (a) For purposes of G-13, Government Policies includes the NASA Management Directives System publications and NASA Standards; certain other Government orders, regulations, procedures, manuals, or advisories (e.g., Federal Aviation Administration Advisory Circulars; National Industrial Security Program Operating Manual) that NASA actively determines applicable to the Contractor’s performance under the Contract as limited by H-53.

(b) In performing work under this Contract, the Contractor shall comply with the requirements of the Government Policies, or parts thereof, so identified in Sections A through J of the Contract.

- (1) The Contracting Officer may, in those situations where the Government believes there are exigent circumstances, unilaterally modify the Contract to add, modify, or delete a Government Policy notwithstanding paragraph (c) of G-13. The Contractor shall immediately comply with the added, modified, or deleted requirements. The Contract modification shall be made pursuant to [FAR 52.243-2, Changes–Cost Reimbursement \(AUG 1987\) \(Alt III, V\)\(APR 1984\)](#) and the Contractor so notified in writing as soon as practical.
- (2) For those Government policies made applicable to JPL through G-13, the Contractor's employees shall be responsible for carrying out the responsibilities under those policies and procedures at JPL that ordinarily would be fulfilled by civil servants at NASA Centers, except for inherently governmental functions, as defined in [FAR Subpart 7.5](#) and this contract. As such, duties assigned to the Center Directors and their civil service staff at NASA Centers shall be performed at the JPL FFRDC by its Laboratory Director and staff unless duties involve inherently governmental functions, as defined in [FAR Subpart 7.5](#) and this contract, or as outlined in [NPD 1000.3](#).

In carrying out these responsibilities, the Contractor shall ensure that sufficient transparency is provided to the NMO to enable oversight, review, and assessment of the contractor's actions. The NMO shall execute inherently governmental actions with assistance from the Contractor as appropriate.

If the Contractor is unable to comply with the requirements of a Government policy or directive, with its own functional or managerial equivalent, the Contractor shall inform the Contracting Officer in accordance with paragraph (c) of G-13.

(c) New or Updated Government Policies

- (1) The Contractor is expected to be given maximum practicable opportunities to assist in drafting (when appropriate) and to provide informal comments on NASA drafts to substantive updates to existing NASA Policies and/or new NASA Policies which are likely to impact the Contractor. The Contractor will be provided with access to NODIS for review and comments.
- (2) For new policies, the Contracting Officer shall notify the Contractor in writing of NASA's intent to add a Government Policy to the Contract.
- (3) The Contractor shall routinely monitor for published updates to Government Policies for which the Contract contains Implementation Plans and provide the Government, notice of any updates. The Contractor shall notify the Contracting Officer in writing of updated policies that may need an update to the associated Implementation Plan, per CDRL CM-004. The CDRL shall include applicable versions of NASA policies and standards currently active on the Contract, with updates and status to existing policies in process.

- (4) The following procedures shall be utilized regardless if the Government has added a new policy to the Contract or the Contractor has identified an update to an existing policy included in the Contract:
- (i) The Contractor shall provide a written assessment of the resource impact of the Contractor's compliance with the Government Policy being proposed for addition or modification.
 - (ii) The Contracting Officer shall provide the assessment to the cognizant policy responsible office. The responsible office in conjunction with the NMO staff and the Contractor shall make a determination if the Contractor shall (1) implement the policy, (2) not implement the policy, or (3) implement certain sections of the policy.
 - (iii) The Contracting Officer in writing shall notify the Contractor of the decision and provide a timeline for completion of the new Implementation Plan, if an IP is warranted or update an Implementation Plan, for those Government Policies with an IP. The timeline shall be discussed and agreed to by both parties prior to notification.
 - (iv) Within agreed upon working days the Contractor shall develop and provide in writing its Implementation Plan associated with the Government Policy, in cases for which an IP is warranted. Such Implementation Plan shall use Attachment H as a guideline and contain:
 - (A) The NASA Directive title and number (if applicable);
 - (B) A declaration and exceptions to requirements called out in the Government Policy, identifying the rationale and risk assessment for non-compliance with portions of the document, if any;
 - (C) If specifically requested by the Contracting Officer, a brief description which, at a high level, maps the requirements of the Government Policy to the Contractor's existing processes or command media (when applicable); and
 - (D) A high-level description of surveillance performance indicators.
- (d) Government Policies Proposed for Deletion by NASA
- (1) The Contracting Officer shall modify the Contract to delete policies in accordance with [FAR 52.243-2, Changes–Cost Reimbursement \(AUG 1987\) Alt III, V \(APR 1984\)](#) as deemed necessary.
- (e) Regardless of the performer of the work, the Contractor is responsible for complying with the requirements of G-13. The Contractor is responsible for flowing down the requirements of Government Policies to subcontracts at any tier to the extent necessary to ensure the Contractor's compliance with the requirements of G-13.

G-14 EXPORT CONTROL REGULATIONS

- (a) General. In the performance of this Contract, the Contractor will from time-to-time be required to handle, process, store, or transmit electronically technical data, software or equipment which may be subject to the export laws and regulations of the United States. The Contractor shall control access to scientific and technical information of national interest, which it handles, processes, stores, or transmits electronically or manually consistent with [NPD 2190.1](#). The Contractor shall control access to these assets and maintain appropriate records as required by law. The Contractor will from time-to-time be required to deliver, disclose, or transfer (export) to foreign entities, (including foreign nationals that are Contractor employees) technical data, software or equipment which may be subject to the export laws and regulations of the United States and which may require an export license (or other regulatory agency approval) or the use of a license exemption/exception. Such exports, which would include, but not be limited to, export of technical data as defined at [22 CFR 120.10](#), will from time-to-time be required for, and be in furtherance of, the performance of this Contract. The Contractor shall comply with Federal export laws and regulations in the performance of this Contract and shall include appropriate provisions in its subcontracts directing its subcontractors to comply with applicable export laws and regulations in the performance of their subcontracts.
- (b) NASA-Sponsored Work.
- (1) In the performance of NASA-sponsored work pursuant to G-5 (Task Ordering Procedure) of this Contract where such work is in furtherance of planned or in-place international agreements between NASA and a foreign partner, the Contractor will identify to NASA that such work requires the transfer to foreign entities of equipment, software or technical data controlled under the International Traffic In Arms Regulations (ITAR) or the Export Administration Regulations (EAR). In each such instance, language will be included in the task plan indicating that the Contractor is required under the terms of this Contract and the task order to deliver, disclose, or transfer (export) technical data, software or equipment to a specific foreign entity, including appropriate limitations, provisos and instructions applicable to the specific transfers. Any and all exports in support of such task plans which do not fall within either generally available license exceptions/exemptions, including but not limited to the ITAR exemption available under [22 CFR 125.4 \(b\)\(3\)](#), shall be exported under Contractor obtained licenses, unless NASA and the Contractor determine that the export is unnecessary for performance of the applicable task plan. To the extent that the Government agrees to the use of a Government Bill of Lading to satisfy the requirements of ITAR exemption [22 CFR 126.4](#), the Contractor shall provide all documentation required for NASA to issue such GBLs.
 - (2) In the event the Contractor determines that in performance of NASA-sponsored work pursuant to G-5 (Task Ordering Procedure) of this Contract it would be appropriate to deliver, disclose or transfer (export) technical data, software or equipment to a foreign entity and such work is not in furtherance of a planned or in-place international agreement between NASA and a foreign partner, the Contractor may request NASA to obtain export authorization for such export. If NASA concurs

that such export is necessary, NASA may authorize the use of exemptions uniquely available to the U.S. Government or seek to obtain a license. The Contractor shall provide all documentation required for NASA to issue Government Bills of Lading (GBLs) or to obtain a license. From time-to-time other forms of authorization to the Contractor may be used by NASA (e.g., a letter from the Contracting Officer).

- (c) Work for Other U.S. Government Sponsors. In the performance of non-NASA-sponsored work for other U.S. Government sponsors pursuant to G-5 (Task Ordering Procedure) of this Contract, the Contractor will identify to NASA that such work requires the transfer to foreign entities of equipment, software or technical data controlled under the ITAR or EAR. In each such instance, subject to NASA confirmation with the U.S. Government sponsor that such export is required, language will be included in the task order indicating that the Contractor is required under the terms of this Contract and the task order to deliver, disclose, or transfer (export) technical data, software or equipment to a specific foreign entity. Any and all exports in support of such task orders which do not fall within either generally available license exceptions/exemptions or the [22 CFR 125.4\(b\)\(3\)](#) exemption shall be exported, as specified by the other U.S. Government sponsor, using exemptions available to that sponsor or using a license obtained by that sponsor or by the Contractor.
- (d) Work for Non-U.S. Government Sponsors. Any and all exports in support of task orders for non-U.S. Government sponsored work that does not fall within generally available license exceptions/ exemptions shall be exported pursuant to a license obtained by the Contractor or the non-U.S. Government sponsor. The Contractor shall not utilize the [22 CFR 125.4\(b\)\(3\)](#) or other exemptions uniquely available to the U.S. Government for such exports.
- (e) Limitations. In no instance will NASA apply for a Technical Assistance Agreement or a Manufacturing License Agreement as defined in the ITAR on behalf of the Contractor. In no instance will NASA apply for an export license on behalf of a subcontractor. In all cases not covered by relevant license exemptions as discussed above or licenses applied for by NASA for NASA-sponsored work as agreed with the Contractor, the Contractor shall be responsible for obtaining required export licenses or other approvals for performance of work under this Contract.
- (f) Notification. In all instances wherein the Contractor applies for an export license, other prior approval, commodity jurisdiction, classification request or advisory opinion, in furtherance of work under this Contract, a copy of the Contractor's application package or other request as submitted to the U.S. government regulatory agency shall be provided to the NMO at JPL and The Export Control and Interagency Liaison Division, NASA Headquarters, HQ-TH000, Washington, DC 20546 (Attn: Manager, International Technology Transfer Policy and NASA Export Administrator).
- (g) Record keeping. The Contractor shall be responsible for all regulatory record keeping requirements associated with the use of license exemptions/exceptions and licenses.
- (h) Annual Self-Assessment. For purposes of ensuring adequacy and compliance, the Contractor shall conduct an annual self-assessment consistent with the Export Control Program Audit per [NPR 2190.1](#), Chapter 7, but not including the NPR's Section 7.3.1(i) or

7.4. The annual self-assessment, to be conducted by a JPL organization, shall verify, via sampling that required screening and licensing procedures are regularly followed and that required documents are maintained in compliance with the requirements of the EAR and the ITAR. This includes a review to ensure that appropriate records of all exports or transfers affected in support of NASA cooperative international programs are maintained in accordance with relevant regulations. Per CDRL XX-010, the Contractor will report to the Headquarters Export Administrator on actions taken and intended to be taken as a result of such self-assessment by March 31 of each year.

G-15 FACILITIES

(a) Authorizations. Authorizations for acquisition of facilities will be provided as follows:

- (1) Authorizations for the acquisition of facilities involving the use of funds appropriated for construction of facilities, or involving construction of any facility requiring more than \$500,000 of funds from other sources, will be provided pursuant to the terms of C-1 subparagraph (c)(1) of this Contract.
- (2) In accordance with the facilities terms and conditions of this Contract acquisition of other facilities will be made by the Contractor for the performance of work under C-1 paragraph (a), or C-1 paragraph (b), provided, however, that nothing shall preclude the issuance of a task order, pursuant to C-1 subparagraph (c)(1) for the acquisition of any such other item of facilities, and provided further, that nothing herein shall preclude the Government from furnishing any item of facilities in lieu of authorizing the Contractor to acquire such item, and
- (3) The Contractor shall manage all facility projects funded from NASA appropriations, inclusive of projects involving funds for which NASA will be reimbursed by other federal agencies, estimated to cost \$50,000 or less. Any facility project in excess of \$50,000 must be approved in writing by the NMO Facility Manager prior to the obligation of any funds for the proposed project. The requirements of this paragraph are in addition to, and not in lieu of, the requirements of I-5, [Subcontracts \(FAR 52.244-2\) \(OCT 2010\)](#). NASA Form 1509s with a value of \$500,000 and below shall be submitted to the NMO Facility Manager for approval and NASA Form 1509s valued greater than \$500,000, must be submitted to NASA Headquarters Facilities Engineering Division, Code LD030 for approval. A copy of the NASA Headquarters' approved 1509 will be forwarded to the Contracting Officer and NMO Facility Manager. [NPR 8820.2, Facility Project Requirements](#), shall be utilized by the Contractor in preparing facility approval and implementation documents respectively. This applies to both Government-owned facilities and facilities leased by the Contractor. The definition of words utilized in facility approval documents (e.g., "construction", "repair", "rehabilitation", and "facility") shall have the meanings set forth in the NPR, Facility Project Requirements. Contractor shall provide CDRL FA-002, Functional Area Performance Metrics for CoF, Facilities Maintenance, Real Property, Space Utilization, and Environment on an annual basis.

G-16 DESIGNATION OF NEW TECHNOLOGY REPRESENTATIVE AND PATENT REPRESENTATIVE (NFS 1852.227-72) (APR 2015) (MOD 4)

- (a) For purposes of administration of the clause of this Contract entitled “New Technology-Other than a Small Business Firm or Nonprofit Organization” or “Patent Rights—Ownership by the Contractor”, whichever is included, the following named representatives are hereby designated by the Contracting Officer to administer such clause:

New Technology Representative

Office Code: MS/180-801
Address: NASA Management Office at JPL
4800 Oak Grove Dr.
Pasadena, CA 91109

Patent Representative

Office Code: MS/180-802
Address: NASA Management Office at JPL
4800 Oak Grove Dr.
Pasadena, CA 91109

- (b) Disclosures of reportable items and of subject inventions, interim new technology summary reports, final new technology summary reports, utilization reports, and other reports required by the applicable “New Technology” or “Patent Rights-Ownership by the Contractor” clause, as well as any correspondence with respect to such matters, shall be directed to the New Technology Representative 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 subcontract hereunder requiring a “New Technology-Other than a Small Business Firm or Nonprofit Organization” clause or “Patent Rights—Ownership by the Contractor” clause, unless otherwise authorized or directed by the Contracting Officer.

(End of Clause)

G-17 MANAGEMENT AND OVERSIGHT OF PROPERTY AT OVERSEAS TRACKING STATIONS

The Contractor shall provide technical surveillance and guidance at Government facilities at foreign locations in support of NASA work, covered by this Contract, including Deep Space Network Sites in Spain and Australia. Such oversight shall include an annual site visit for the purpose of conducting a property management system audit. The results of such audits shall be disclosed to the NASA Industrial Property Officer (IPO).

G-18 ALLOCATED DIRECT COST REPORTING

- (a) The Contractor will provide financial reports in accordance with CDRL FM-008. These reports will include:

- (1) An overview of the contents of the budget together with the significant factors, requirements and assumptions that influenced the development of the allocated direct cost budget for the current fiscal year,
- (2) The results of the prior fiscal year baseline allocated direct cost budget and actuals, including
 - (A) Summary of all allocated direct cost rates, including pool and base.
 - (B) Allocated Direct Cost Expenses (final allocated direct cost pools). Schedule of claimed allocated direct cost expenses by pool and element of cost as identified in the accounting records.
 - (C) Claimed allocation bases, by element of cost, used to distribute allocated direct costs.
 - (D) Reconciliation of books of account (i.e., General Ledger) and claimed direct costs.
 - (E) Schedule of costs by task order and project.
 - (F) Schedule of cumulative costs claimed by subcontract.
 - (G) Subcontract information. Listing of subcontracts awarded to companies for which the contractor is the prime or upper-tier contractor (include prime and subcontract numbers; subcontract value and award type; amount claimed during the fiscal year; and the subcontractor name, address, and point of contact information).
 - (H) Reconciliation of total payroll per IRS form 941 to total labor costs distribution.
 - (I) Listing of decisions/agreements/approvals and description of accounting/organizational changes.
- (3) The following supplemental JPL information is not required to determine if the annual Allocated Direct Cost report is adequate, but may be required during the audit process:
 - (A) Cost data for comparative analysis of allocated direct costs detailed by account to prior fiscal year.
 - (B) General Organizational information and Executive compensation for the five most highly compensated executives at JPL. See [31.205-6\(p\)](#). Additional salary reference information is available at: <https://www.whitehouse.gov/wp-content/uploads/2017/11/ContractorCompensationCapContractsAwardedafterJune24.pdf> (Mod 4)
 - (C) Identification of prime contracts under which JPL performs as a subcontractor.

- (D) Procedures for identifying and excluding unallowable costs from the costs claimed and billed (excludes contractors where the procedures have not changes from the previous year's submission).
 - (E) Audited financial statements and other financial data for JPL (e.g., trial balance, compilation, review, etc.).
 - (F) Management letter from outside CPAs issued in conjunction with the JPL Uniform Guidance Audit concerning any internal control weaknesses at JPL.
 - (G) Actions that have been and/or will be implemented to correct the weaknesses described in the management letter from subparagraph (F) of this section.
 - (H) List of all planned internal audit reports related to JPL that have been completed and issued since the last disclosure of internal audit reports to the Government.
 - (I) Annual internal audit plan of scheduled audits to be performed at JPL in the fiscal year when the final allocated direct cost rate submission is made.
 - (J) Minutes of the Meeting of the Board of Directors related to JPL.
 - (K) Listing of delay claims and termination claims applicable to JPL submitted which contain costs relating to the subject fiscal year.
 - (L) Access to JPL Task Orders, which generally include a synopsis of all pertinent contract provisions, such as: Contract type, contract amount, product or service(s) to be provided, contract performance period, rate ceilings, advance approval requirements, pre-contract cost allowability limitations, and billing limitations.
- (4) Projections of estimated allocated direct costs and business-base assumptions for the subsequent five years;
- (A) Per CDRL FM-009, monthly reports which shall include
 - (1) A comparison of baseline budget and allocated direct cost actuals by budget category,
 - (2) A variance report of the allocated direct costs actually incurred compared to the applied allocated direct costs and associated distribution bases, and
 - (3) Report any significant changes to the baseline allocated direct cost budget, actuals or business base;
 - (B) And such other special reports as the Contracting Officer may request, per CDRL FM-012.

G-19 WHOLE AGREEMENT

- (a) This Contract, 80NM0018D0004, contains the whole agreement between the Parties.
- (b) Attachments are part of the Contract.
- (c) Appendices to this Contract are separate and non-binding documents appended for information only. Appendices do not constitute a part of this Contract.

G-20 TRAVEL

- (a) The Contractor shall maintain comprehensive travel management policies and procedures to enable efficient travel. The Contractor shall continuously evaluate travel and relocation programs and policies, examine new technologies and automated systems, and educate and train travel personnel. The Contractor shall ensure that travel is conducted in a responsible manner, with the need to minimize costs, and that policies and procedures are communicated in a clear manner to personnel. It is incumbent upon travelers, authorizing and approving personnel and financial management personnel to be familiar with the Contractor's policies, procedures and requirements in relation to their specific roles in the travel process. Quality assurance reviews shall be conducted by the Contractor to ensure that travel costs claimed under this Contract comply with the Contractor's policies and procedures.
- (b) The Federal Travel Regulation (FTR), Joint Travel Regulation (JTR) and Standardized Regulations (SR) are applicable to the Contractor to the extent invoked by [FAR Subpart 31.2, Contracts with Commercial Organizations](#), consistent with B-5, Allowable Costs, of this Contract.
- (c) The section below covers the coordination, review, and approval of foreign travel by Contractor employees and others (other than employees of subcontractors) on official business where the cost is paid by others or is chargeable to the Contract.
 - (1) All foreign travel must be reviewed and approved in advance by the Contractor's Director, Deputy Director, Associate Director, or Director for the applicable Contractor Directorate.
 - (2) The Contractor shall:
 - (i) Submit Country Clearance requests to the appropriate United States Embassy(ies) in advance of all foreign travel.
 - (ii) Provide advance e-mail notice of all Contractor foreign travel on behalf of JPL to the Office of International and Interagency Relations (OIIR) and to HQ Mission Directorates, as appropriate. Copies of any formal papers or abstracts to be presented shall be included for NASA review and concurrence on export.
 - (iii) Provide advance e-mail notice to the NMO Contracting Officer of any non-NASA sponsored foreign travel on behalf of JPL.

- (iv) Per CDRL XX-001, provide a weekly report of all approved foreign travel to OIIR.
- (v) Per CDRL XX-002, provide trip reports to OIIR, if requested.
- (3) Contractor travelers are required to receive and acknowledge receipt of a foreign travel awareness information document from JPL Security prior to foreign travel.
- (4) Contractor travelers are responsible for obtaining appropriate medical clearance, if required, for all foreign travel.
- (5) Training shall be conducted in accordance with [NID 9700.1](#), Chapter 7.

G-21 FINANCIAL MANAGEMENT

- (a) General. The Contractor shall maintain financial management operating procedures and engage in continuous monitoring activities to enable the review and analysis of financial data to identify inaccurate data, abnormal balances, accounting relationship differences and other financial reporting anomalies resulting in reporting discrepancies. The Contractor shall ensure that various tools and methods are used to thoroughly analyze and review the financial data reported both internally and externally.
- (b) Operating Procedures. To ensure the most accurate financial data, the Contractor's financial management operating procedures shall provide guidance relative to executing project business activities as well as the framework for performing institutional financial activities for program/project managers, line managers, business managers and technical and business staff. The Contractor's procedures shall be designed to ensure the use of standard and consistent methods of processing, reporting and reviewing financial data. The Contractor's procedures shall serve as a resource to assist financial management personnel with their day-to-day operations.
- (c) Monitoring. Continuous monitoring shall be performed to assess and evaluate (a) internal controls, (b) compliance with Generally Accepted Accounting Principles (GAAP) and the financial requirements of this Contract and (c) evidence that balances and activity reported in the Contractor's financial statements are accurate and complete. The monitoring shall ensure that errors and/or discrepancies are identified and corrected in a timely manner and that there are ongoing management reviews and validations of financial data and internal controls. This would also include providing information/documentation necessary to assist NASA with the monthly Continuous Monitoring Program (CMP) CFO Certification requirements.

G-22 COST ACCRUALS

- (a) The Contractor's accounting records shall be maintained on a modified accrual basis. Every practicable effort shall be made to ensure cost accruals are as accurate as possible. Generally accepted accounting methods shall be used in developing accruals. Simplified methods for monthly accruals such as estimates based on prior month reporting may be used

when demonstrated to be reasonably reliable. Accruals shall be recorded in the appropriate accounts as defined by the fiscal period.

- (b) The Contractor shall incorporate accruals into the Monthly Contractor Financial Management Report, NF 533M, that is delivered to NASA.
- (c) It is recognized that the Contractor's accounting periods differ from the calendar month basis used for NASA accounting. The Contractor's cost accruals, however, need not include an estimate for the costs to be incurred during the period from the end of the Contractor's accounting period to the end of the calendar month, quarter or fiscal year.

[END OF SECTION]

SECTION H—SPECIAL CONTRACT REQUIREMENTS

H-1 LISTING OF CLAUSES INCORPORATED BY REFERENCE

The following Contract clauses pertinent to this section are hereby incorporated by reference:

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
<u>52.223-5</u>	<u>MAY 2011</u>	<u>POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION (ALT I, II) (MAY 2011)</u>
<u>52.223-15</u>	<u>DEC 2007</u>	<u>ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS</u>
<u>52.223-16</u>	<u>OCT 2015</u>	<u>ACQUISITION OF EPEAT-REGISTERED PERSONAL COMPUTER PRODUCTS</u>
<u>52.223-17</u>	<u>MAY 2008</u>	<u>AFFIRMATIVE PROCUREMENT OF EPA-DESIGNATED ITEMS IN SERVICE AND CONSTRUCTION CONTRACTS</u>

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

CLAUSE NUMBER	DATE	TITLE
<u>1852.208-81</u>	<u>NOV 2004</u>	<u>RESTRICTIONS ON PRINTING AND DUPLICATING</u>
<u>1852.223-70</u>	<u>DEC 2015</u>	<u>SAFETY AND HEALTH MEASURES AND MISHAP REPORTING</u>
<u>1852.223-75</u>	<u>FEB 2002</u>	<u>MAJOR BREACH OF SAFETY OR SECURITY (ALT I) (FEB 2006)</u>
<u>1852.223-76</u>	<u>JULY 2003</u>	<u>FEDERAL AUTOMOTIVE STATISTICAL TOOL REPORTING</u> [CDRL TE-001]
<u>1852.225-70</u>	<u>FEB 2000</u>	<u>EXPORT LICENSES (ALT I) (FEB 2000)</u> [Fill-in for paragraph (b): JPL]
<u>1852.228-76</u>	<u>OCT 2012</u>	<u>CROSS-WAIVER OF LIABILITY FOR INTERNATIONAL SPACE STATION ACTIVITIES</u>

CLAUSE NUMBER	DATE	TITLE
<u>1852.228-78</u>	<u>OCT 2012</u>	<u>CROSS-WAIVER OF LIABILITY FOR SCIENCE OR SPACE EXPLORATION ACTIVITIES UNRELATED TO THE INTERNATIONAL SPACE STATION</u>
<u>1852.235-73</u>	<u>DEC 2006</u>	<u>FINAL SCIENTIFIC AND TECHNICAL REPORTS</u>
<u>1852.244-70</u>	<u>APR 1985</u>	<u>GEOGRAPHIC PARTICIPATION IN THE AEROSPACE PROGRAM</u>

H-2 LIMITATION OF FUTURE CONTRACTING

- (a) The Government and the Contractor understand that JPL personnel will be allowed access to Government and supplier data, including sensitive and proprietary data, and to Government employees and facilities beyond that which is common to the normal contractual relationship. Because of this special relationship, activities under this Contract may result in organizational conflicts of interest. The Contractor agrees to take affirmative measures to mitigate and avoid such conflicts, and have full disclosure of its affairs to NASA. The Contracting Officer has determined that this acquisition may give rise to a potential organizational conflict of interest.
- (b) The nature of this conflict may include, but is not limited to:
 - (1) The Contractor provides advisory and assistance services in assisting NASA in the review, selection, award, and monitoring of Announcements of Opportunity, NASA Research Announcements, and other Broad Agency Announcements.
 - (2) The Contractor provides advisory and assistance services to NASA in program and project management roles (e.g., NASA program lead, NASA project lead), which includes program and project planning that may result in subsequent competitive acquisition of supplies and services.
 - (3) The Contractor provides advisory and assistance services in assisting NASA in other decision-making roles (e.g., export control; energy management; education/outreach; and NASA's SBIR program)
 - (4) The Contractor manages the Research and Technology (RNA) program and the Caltech streamlined subcontracting process for the award of observation time on programs such as the Spitzer Space Telescope (SST). The Contractor may be tasked with similar roles for other programs in the future.
 - (5) The Contractor has access to technical and business information that should not be disclosed to outside interests.
 - (6) The Contractor has access to NASA internal technical and business information.

- (7) The Contractor may hold financial interests in organizations that it conducts business with.

Due to the circumstances set forth above, the Contractor might be in a position to favor its own products or capabilities and/or may have an unfair competitive advantage.

- (c) Based upon these roles performed by the Contractor, restrictions upon future contracting are set forth as follows:

- (1) If the Contractor, under the terms of this contract, or through the performance of tasks pursuant to this contract, is required to develop complete specifications or statements of work that are to be incorporated into a Government solicitation for non-developmental items, the Contractor shall be ineligible to perform the work described in that solicitation as a prime or first-tier subcontractor under an ensuing NASA contract.
- (2) To the extent that the work under this contract requires access to proprietary, business confidential, or financial data of other companies, and as long as these data remain proprietary or confidential, the Contractor shall protect these data from unauthorized use and disclosure and agrees not to use them to compete with other companies. Evaluation of proposal information will be governed by H-12, Handling, Protection and Release of Restricted Information, Paragraph 4.
- (3) The Contractor is required to have written Conflict of Interest procedures subject to approval and periodic audit by the Government. The written procedures shall address policies to eliminate or mitigate potential conflicts as set forth in paragraph (b) above and any other potential conflicts that may be identified by the Contracting Officer during performance of the Contract.
- (4) For tasks that may result in subsequent competitive acquisition of developmental items (e.g., flight hardware), a written conflict of interest avoidance plan will be developed as part of the task plan for the work effort and will be approved by NASA prior to initiation of the task. Although NASA may identify potential conflicts to the Contractor prior to initiation of the task, it is incumbent upon the Contractor to review the work to be performed under the task to identify potential conflicts. Conflict of interest avoidance plans will contain the following elements:
 - (i) A description of the potential conflict of interest.
 - (ii) A written management plan (i.e., organizational conflict of interest avoidance and mitigation plan) to avoid or mitigate the conflict of interest, including the organizational controls that will be put in place to ensure effective separation of organizational units that may be involved in planning and determining requirements from those organizations that may be involved in proposing for such work efforts.
 - (iii) The requirement that personnel who will be involved in planning and determining requirements for tasks where a potential conflict of interest exists will be required to sign a non-disclosure agreement attesting that they will not be involved in

working on a proposal in response to any solicitation resulting from the task, and that they will not talk or provide information about the task to anyone who has not signed the non-disclosure agreement. The written non-disclosure agreements will be kept on file by the program or project manager and will be available for NASA's inspection.

- (iv) The requirement that the responsible official (e.g., program or project manager) will maintain a comprehensive list of all persons with access to information about the task and each person's organizational affiliation.
- (v) The requirement that persons involved in planning and determining requirements for tasks will be required to answer questions and provide additional information related to a subsequent procurement actions only through the procedures set forth by the JPL contracting organization, allowing equal access to information by all potential offerors.
- (vi) The names of persons in the organization, by specific job title, who will be responsible for ensuring that the conflict of interest avoidance plan is followed.
- (vii) Signature of the plan by the responsible official.
- (viii) Approval of the plan by the Contracting Officer prior to initiation of the task. For conflicts that are not identified until after initiation of the task, the potential conflict will be identified immediately to the Contracting Officer, who will determine the timeframe for approval of the plan and any restrictions for immediate implementation prior to the plans formal approval.

H-3 KEY PERSONNEL AND FACILITIES

- (a) The personnel listed in (c) below, or specifically detailed in a task plan as key personnel are considered essential to the work being performed under this Contract. Before removing, replacing, or diverting any of the listed or specified personnel, the Contractor shall:
 - (1) notify the NASA Program Director or cognizant Division Director reasonably in advance and
 - (2) discuss with that individual the justification for the removal, replacement or diversion (including proposed substitutions) in sufficient detail to permit evaluation of the impact on the effort being performed.
- (b) The Contractor shall make no diversion without the cognizant NASA Associate Administrator's consent.
- (c) The list of personnel shown below may, with the consent of the Associate Administrator for the Science Mission Directorate and the JPL Director be amended from time to time during the course of the Contract to add or delete personnel:
 - (1) "Director For" a JPL directorate or an equivalent position and above.

- (2) JPL Project Managers and Project Scientists assigned full time to perform for a “flight project”, including AO projects. The term “flight project” is a project which has as one of its principle purpose the construction and operation of one or more aeronautic or space vehicles and necessary ground support.
- (d) The Contracting Officer will be notified in writing of changes at the “JPL Director For” or an equivalent position and above.

H-4 ADVANCE PAYMENTS

In applying I-11, Advance Payments (FAR 52.232-12)(MAY 2001) (Alternate II) (MAY 2001) as modified by [NFS 1852.232-70 \(APR 2015\) \(Deviation\)](#), delivery of the Contractor’s annual audited financial statements to the Contracting Officer shall be deemed to satisfy the requirements of paragraph (j)(1); and paragraphs (l) and (m) shall not be deemed to take effect (nor shall the specific amounts in paragraph (m) be determined) unless and until, with Contracting Officer approval, an advance payment is taken for estimated costs for future work to be performed under this Contract and such paragraphs shall remain in effect only until that advance payment has been fully utilized for contract performance or refunded.

Advance Payments to Subcontractors

- (1) The Contractor shall not use funds provided by the LOC to make advance payments to its subcontractors, other than commercial advance payments in accordance with [FAR 32.2](#) or those described in item (2) below, without the approval of the Contracting Officer.
- (2) The Contractor may provide advance payments in the following instances, but only where such payments are common practice in the industry and are required by the vendor for all customers: subscriptions to periodicals; conference sponsorship/registration fees; commercial training; purchase of office equipment; rentals/leases of commercial equipment; research support agreements; software licenses; cloud computing services; data storage; and hardware/software maintenance agreements. Other than as described in the first sentence, commercial subcontractors shall not be paid advance payments greater than 15% of the subcontract price. Payments for multi-year software licenses, cloud computing services, data storage, and hardware/software maintenance agreements may be made when it makes sense economically to do so.
- (3) When advance notice or written consent is required by the terms of Clause I-5, [Sub-contracts \(FAR 52.244-2\) \(OCT 2010\)](#), the Contractor shall not use advance payments for non-commercial items until such advance notification has been provided and written subcontract consent has been received.

H-5 EXECUTIVE ORDERS

Executive Orders are legally binding orders given by the President of the United States, acting as the head of the Executive Branch, to federal administrative agencies such as NASA. Executive Orders are used to direct federal agencies or federal officials in the execution of their legal, statutory, regulatory, or policy duties, including the operations affecting federally owned

facilities such a JPL. In the planning and execution of government funded programs/projects, as well as the operation of government facilities, the contractor shall, within the scope of the contract, perform in such a manner so as to support NASA meeting its obligations under Executive Orders, including the provision of any such data necessary for NASA to meet its reporting obligations. While any Executive Order may only apply to NASA on its face, the Contractor will provide technical, logistical, and other services as may be necessary to NASA.

H-6 WAGES, SALARIES, AND PERSONNEL DATA

- (a) The Contractor agrees that all wages, salaries, and other compensation being paid, or to be paid, to the employees of JPL are being paid, and will be paid, in accordance with the Contractor's established wage and salary policy and practice and that such payments will be reasonable and consistent therewith. Further, upon written request from the Contracting Officer, the Contractor agrees to furnish the Contracting Officer its wage and salary schedules, its nonacademic personnel policies, and amendments thereto and modifications thereof, including job titles contained within such rate ranges and/or other descriptive information identifying the types of positions within fifteen calendar days from the date the written request is received, per CDRL HR-001.
- (b) Per CDRL HR-002, the Contractor shall provide the following aggregated data on its work force employed at JPL: occupational distribution, educational levels, and average age and rate ranges. Such data shall be submitted annually.
- (c) To the extent that these materials contain personally identifiable information, such records will be handled in accordance with the provisions of H-16 (Property Rights in Records).

H-7 SAFETY, HEALTH, AND MISSION ASSURANCE

The Contractor is responsible for managing Safety and Mission Assurance (SMA) at the Jet Propulsion Laboratory consistent with the SMA Technical Authority (TA) provided in G-6; the overall intent of NASA SMA Policies found in Attachment A, "Listing of All Applicable NASA Policies," including the lower tier documents contained within the NASA SMA Policies; and the Implementation Plan (IP) provided in Attachment A. Updates, additions, and deletions to the SMA Policies listed in Attachment A will be handled in accordance with G-13, entitled "NASA Directives and Government Policies."

In accordance with the Contract Data Requirements List (CDRL), the Contractor will provide the following Safety, Health and Mission Assurance documents and data:

- (a) A safety and health plan no later than 90 days after the effective date of the Contract (CDRL SMS-001). The plan shall implement the requirements of [1852.223-70, Safety and Health Measures and Mishap Reporting](#). The Contractor shall maintain updates to this plan and shall provide these updates. At the Contractor's discretion, the safety and health plan may incorporate elements of other required safety and mission assurance discipline plans.
- (b) A list of the types of hazardous operations being performed under this Contract within 90 days after the effective date of the Contract (CDRL SMS-002). The Contractor shall

maintain updates to this list and shall provide the updates, no less than semi-annually. Detailed documentation Operational Safety Reviews (OSRs) of potential hazardous operations shall be retained on file at JPL and shall be made available upon Contracting Officer request. The parties agree that the reporting requirements of paragraphs (a) and (b) satisfy the Contractor's obligations in [1852.223-70, Safety and Health Measures and Mishap Reporting](#). (Mod 4)

- (c) A detailed pressure vessels and systems (PVS) certification plan for existing and new systems including the identification of key milestones within 90 days of the effective date of the Contract (CDRL SMS-005). This plan will be updated periodically to reflect progress made and provided to NMO.
- (d) Data, as requested by OSMA for the OSMA Center Safety and Mission Assurance Health Assessment (OCSHA) Report (CDRL SMS-003). The data shall be submitted no later than the date specified annually in the NASA Center SMA Health Assessment Report Guidance Letter and shall include those items set forth in the Guidance Letter.
- (e) An Illness, Incident and Injury Experience Report is required on a quarterly basis (CDRL SMS-004).

H-8 ENVIRONMENTAL MATTERS

(a) Environmental Compliance and Restoration (ECR) Program Provisions.

- (1) General. This section pertains to ECR activities (e.g., environmental studies, designs, projects, etc.) included in the ECR Program. The ECR Program funding is part of the ECR budget. The Contractor, if requested to do so by the Contracting Officer, shall provide assistance to the Government concerning any matter arising under or relating to ECR activities. Accordingly the Contractor has entered or may enter into Agreements with local governments and other instrumentalities in order to assist the Government on certain ECR activities.
- (2) Environmental Project Support. NASA may require that certain environmental activities (studies, designs, and projects) be conducted by certain outside organizations or their contractors, including other Government agencies and other Centers. The Contractor shall provide access, facilities support, security, and other support services necessary for the outside organization to complete the environmental activity. The parties recognize that the Contractor is not responsible for the actions of any such outside organization doing business at the facility or at the facility and surrounding areas. In this regard, if third party claims are brought against the Contractor which are caused by or arise from the actions of such an outside organization doing business at the facility or at the facility and surrounding areas, those claims and any resulting liability there from to the extent attributable to such actions shall be deemed to "arise out of the performance of this contract" as that phrase is used in [FAR 52.228-7—Insurance Liability to Third Persons, dated March 1996](#). This understanding, however, shall not alter any liability the Contractor would otherwise have as a Potentially

Responsible Party under the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §9601.

- (b) NASA Directives Applicable to Environmental Matters. The provisions of the NASA Policy Directive (NPD) and NASA Procedural Requirements (NPR) documents in Attachment A shall be used for all work performed under this provision.
- (c) The Contractor recognizes that JPL is a Government-owned facility and the Government has certain responsibilities pursuant to NEPA for the conduct of all programs funded through the Contract. It is recognized that the Government retains all responsibility for NEPA compliance for all Governmental programs, missions, operations and tasks funded through the Contract and shall approve all documentation developed by the Contractor to assist the Government in accordance with H-8.

H-9 ENERGY MANAGEMENT

- (a) Energy and Water Conservation. All Contractor operations shall support NASA's mission by complying with all Federally mandated energy and water conservation requirements, reporting, and goals.
 - (1) Based on regulatory exclusion (goal exclusion) granted to NASA by DOE, Federal energy use intensity (EUI) reduction goals do not apply to Goldstone Deep Space Communication Complex (GDSCC) because energy needs of mission activities make it impractical for GDSCC to meet the EUI reduction requirements. The following conditions apply:
 - (i) Conduct comprehensive evaluations per the National Energy Conservation Policy Act of 1978 (NECPA) and the Energy Independence And Security Act of 2007 (EISA) and implement cost-effective energy conservation measures identified in such evaluations within 180 days of audit completions to the extent that appropriated funds and/or alternative financing methods are available.
 - (ii) Should DOE or NASA determine that a GDSCC facility no longer meets the requirements of regulatory exclusion, GDSCC shall remove that facility from the excluded facilities list within 180 days unless otherwise provided in writing from the Contracting Officer.
 - (2) Should regulatory or statutory changes alter the externally imposed quantitative requirements of H-9 or [NPR 8553.1](#), those regulatory or statutory requirements shall immediately and automatically apply.
 - (3) For contract performance purposes, metrics for Federally mandated energy and water conservation requirements, reporting, and goals in H-9(a) will be considered on a "contract" basis, and not separately for Oak Grove and GDSCC; however, data will maintain the distinction between the two sites to support external reporting needs.

- (b) Energy and Water Conservation Reports. Per CDRL EM-006, the Contractor shall provide to NASA any reports required by Federal, State, and local regulation, Executive Orders, NPDs and NPRs within the timeframe established by the regulatory requirement or NASA.

H-10 OCCUPATIONAL HEALTH SERVICES

The Contractor is responsible for managing the occupational health program at the Jet Propulsion Laboratory consistent with the overall intent of [NPR 1800.1](#) and [NPD 1800.2](#) as detailed in the attached Implementation Plan (IP) provided in Attachment A. Updates, additions, and deletions to the OCHMO policies listed above will be handled in accordance with G-13, entitled “NASA Issuance System and Government Policies.” Only redacted medical records related to employee work exposures (both hard copy and electronic), whether under the control of Contractor or their OH medical service provider, will be available for Agency medical quality control review. Personally identifiable information (PII) shall be redacted.

H-11 EXTERNAL COMMUNICATIONS AND VISITOR REQUESTS FROM ELECTED OFFICIALS AND THOSE KNOWN TO BE SEEKING ELECTED OFFICE

- (a) General. The Contractor shall observe the policies and procedures agreed to by the Parties set forth hereto regarding the conduct of JPL’s external communications programs, including public affairs programs, the release of information to the public relative to work performed under this Contract or matters relating to NASA programs, and communications with (i) Congress or other legislative bodies and (ii) elected officials and those seeking elected office.
- (b) Consultation. The Contractor shall consult freely with the NASA Associate Administrator, Office of Communications and the NASA Associate Administrator, Office of Legislative and Intergovernmental Affairs, or the cognizant designees for guidance in applying these procedures.
- (c) Visitor requests from elected officials. The Contractor shall coordinate visitor requests from elected officials and those seeking elected office to visit JPL or a JPL component facility (e.g., Table Mountain Facility; Goldstone Deep Space Communication Center) with NASA’s Office of Legislative and Intergovernmental Affairs in advance and with the NMO Chief Counsel to assist NASA in complying with the requirements of the U.S. Office of Special Counsel and the Hatch Act. The Contractor will notify the NMO Director and NMO Chief Counsel prior to granting a visit request from elected officials and those seeking elected office to ensure compliance with the Hatch Act.
- (d) NASA–JPL Policies and Procedures Regarding Public Information Programs and News Issuances
 - (1) Introduction. Consistent with Section 203 (a)(3) of the Space Act and the Freedom of Information Act (5 USC § 552) it is NASA Policy to carry out a public affairs program designed to make available factual and timely information concerning its activities, its programs, and their results. In carrying out its statutory responsibilities NASA encourages its contractors not only to respond to queries from media, but to carry out a

positive program of dissemination of factual and timely information relating to work being done for NASA. In doing so, contractors are expected to coordinate their activities with NASA Public Affairs officials. Review and approval of any material submitted to NASA does not constitute approval to expend funds; expenditures for information dissemination and advertising remain subject to applicable cost principles under the Contract.

- (2) **Applicability.** The policies and procedures set forth herein apply to all public affairs activities and news issuances made by JPL, bearing on work being performed by JPL for the civil aeronautics and space program of the United States. News issuances include information (textual and/or audiovisual) intended for or distributed to the general public (including via the Internet); i.e., to other than the technical and scientific communities. Information disseminated exclusively for internal JPL use is not considered a news issuance. Examples of news issuances include news releases, fact sheets, press kits, transcripts, speech reprints, notes to editors, feature articles, biographics, etc. News issuances do not include educational products and general information disseminated to the public as a part of routine JPL outreach activities. However, such products and information must be consistent with more news-oriented products coordinated through the clearance process for news issuances. House organs published with funds provided under this Contract are considered news issuances only when they are used to disseminate information to external audiences. Guidelines for news issuances by subcontractors of JPL, including lower tier subcontractors, shall be in accordance with guidelines established by the NASA Headquarters Office of Communications.
- (3) **Clearance Requirements for News Issuances.**
 - (i) Except as otherwise provided in this Contract, information may be released to the public by JPL without prior NASA clearance, subject to the provisions of subparagraph (ii) below.
 - (ii) Prior NASA clearance is required for all news releases by JPL involving:
 - (A) discussion of launch vehicle selections or launch schedules.
 - (B) planning, scheduling, and managing major development programs or space
 - (C) proposed budgets and financial plans.
 - (D) proposed organization of effort for the execution of NASA programs, including management of projects and plans for use of NASA prime contractors or subcontractors.
 - (E) information on projects for which a NASA Center or an outside agency has the primary responsibility, except that this shall not be construed as a limitation on speeches or oral statements made by a Director for a Directorate or higher official of the JPL.

- (F) releases having an estimated total cost, including in-house effort, in excess of \$25,000; for example, exhibits, films and pamphlets.
 - (G) preferred or proprietary arrangements with any particular segment of the information media, publishing or entertainment industries, or any individual elements thereof; provided, however, this requirement in no way limits the Contractor's rights under [FAR 52.227-14, Rights in Data—General \(ALT II, III, V\)](#).
 - (H) information on international matters or for news release outside the United States.
 - (I) information intended for national news release, or any information which, because of the nature of the subject matter or timing involved, will, in the opinion of the Director of JPL, be likely to attract more than routine local or regional public interest.
- (iii) Where prior NASA clearance is required, requests will be directed to the NASA Associate Administrator for Public Affairs or his or her designee, or the NASA Associate Administrator, Office of Legislative and Intergovernmental Affairs, or his or her designee, or both, as appropriate. Requests will be made in writing, provided, however, that if time is critical, telephone requests may be made.
 - (iv) The Director of JPL will establish guidelines and procedures covering news release of information at JPL. These guidelines and procedures will be consistent with the Space Act and the Freedom of Information Act and will follow the spirit and intent of [14 CFR Part 1213 Subpart 1](#).
- (4) The Communications Plan.
- (i) General. Public affairs support of a significant program milestone or event such as a rollout, first flight, launch, space rendezvous/encounter, fly-by, high public-interest mission, etc., generally requires preparation and implementation of a Communications Plan. The Communications Plan sets forth the public affairs support activities, procedures, responsibilities; and the contractor-vs.-government furnished personnel, supplies, equipment, services and funding. Support activities and requirements usually include a combination of, or all of the following; on-site newsroom operation; guest invitations and operations; press conferences; news kits and news releases; still photo, motion picture and video releases; unique equipment and special supplies; supplemental personnel and transportation; NASA feed to television networks, etc.
 - (ii) Preparation of the Communications Plan. Communications Plans will be prepared by the NASA Office of Communications, with input and assistance from JPL. JPL will respond to requests for assistance in the development of the Communications Plan and assume its operational role and responsibilities upon implementation of the Plan.

(5) Identification of Releases.

- (i) All written news releases pertaining to NASA programs will identify NASA in a larger format than the JPL and/or the California Institute of Technology.
- (ii) All substantive news releases which pertain to work being sponsored by NASA will clearly reflect this sponsorship and the NASA/Caltech contractual relationship.

H-12 HANDLING, PROTECTION, AND RELEASE OF RESTRICTED INFORMATION

1. Handling and Protection of Restricted Information

- (a) 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:
 - (1) Limited rights data;
 - (2) Restricted computer software;
 - (3) 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; and
 - (4) Information designated by the U.S. Government as Sensitive But Unclassified (SBU).
- (b) Regardless of minor differences in language, this clause is meant to be an equivalent to NASA FAR Supplement clauses [1852.237-72, Access to Sensitive Information](#), and [1852.237-73, Release of Sensitive Information](#), or their successors, and, as such, inclusion of this clause in this contract or any subcontracts thereunder allows the Government the same rights to release any marked data as those set forth in [NASA FAR Supplement 1852.237-73\(b\)](#) or to provide data to the Contractor or any Subcontractors under this contract as set forth in [NASA FAR Supplement 1852.237-73\(d\)](#).
- (c) Restrictions on use and disclosure of restricted information. With regard to any restricted information to which the Contractor is given access, by or on behalf of NASA, 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 the Contracting Officer as being subject to this clause, the Contractor agrees to:
 - (1) Use such restricted information only for the purposes of performing the services specified in this contract;

- (2) Safeguard the restricted information from unauthorized use and disclosure;
 - (3) Allow access to the restricted information only to those employees and subcontractors that need it to perform services under this contract;
 - (4) Preclude access and disclosure of the restricted information to persons and entities outside of the Contractor's or its subcontractor's organization(s);
 - (5) 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;
 - (6) Require that each employee that has access to restricted information complies with the obligations regarding restricted information included in this clause; and
 - (7) Return or dispose of the restricted information, as NASA may direct, when the restricted information is no longer needed for performance of work under this contract.
- (d) Exceptions
- (1) The obligations and prohibitions of paragraph (b) do not apply to restricted information which the Contractor can demonstrate to the Contracting Officer—
 - (i) Was publicly available at the time of receipt by the Contractor or thereafter becomes publicly available without breach of this contract;
 - (ii) Was known to, in the possession of, or developed by or for the Contractor independently of the restricted information received from the Government and such knowledge, possession, or independent development can be shown;
 - (iii) Was received by the Contractor 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 Contractor to hold it in confidence; or
 - (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.
 - (2) Under a valid order of a court or Government agency, the Contractor may release restricted information to which the Contractor is given access by or on behalf of NASA in performance of this contract, provided that the Contractor provides prior written notice to the owner of the restricted information of such obligation and the opportunity to oppose such disclosure. The Contractor shall provide a copy of the notice to the Contracting Officer.
- (e) In the event that restricted information provided to the Contractor by or on behalf of NASA includes a restrictive legend that the Contractor deems to be ambiguous or

unauthorized, the Contractor must notify the Contracting Officer 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, the Contractor will treat the restricted information pursuant to the requirements of this clause unless otherwise directed in writing by the Contracting Officer or the owner of the restricted information.

- (f) Other contractual restrictions on restricted information. This clause is subordinate to all other contract 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 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, III, and V](#) (as modified by [1852.227-14](#), if applicable). If the Contractor 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, the Contractor must consult with the Contracting Officer before taking subsequent actions under the other clause.
- (g) The Contracting Officer may require the Contractor to demonstrate how it is complying with this Handling and Protection of Restricted Information clause.
- (h) Remedies. Recognizing that this contract establishes a high standard of accountability and trust, the Contractor's breach of any of the conditions of this clause may provide grounds for the Government to pursue such remedies as may be permitted by law, regulation, or this contract.

2. Release of Restricted Information

- (a) 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:
 - (1) Limited rights data;
 - (2) Restricted computer software;
 - (3) 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; and
 - (4) Information designated by the U.S. Government as Sensitive But Unclassified (SBU).
- (b) In performance of NASA contracts, contractors, as well as their subcontractors and their individual employees, may require access to restricted information in the Government's possession. The Contractor agrees that, where needed for the

performance of a NASA contract, NASA may release to its contractors, and their subcontractors, restricted information delivered during the course of this contract. Additionally, offerors agree that restricted information submitted with their proposals may be provided to NASA service contractors that assist NASA with contract closeout. If suitably marked with a legend indicating that use and disclosure of restricted information is restricted, such restricted information will be subject to the enumerated protections mandated by this clause. The Contractor's limited rights data and restricted computer software will be provided to other NASA contractors or subcontractors only as authorized by the clause at [52.227-14, Rights in Data-General, Alternates II, III, and V](#) (as modified by [1852.227-14](#), if applicable).

- (c) For purposes of marking such restricted information, the Contractor may, in addition to any other notice or legend otherwise required (e.g., notices required under the clause at [52.227-14, Rights in Data—General, Alternates II, III, and V](#)), use a notice similar to the following:

Mark the title page with the following legend:

This document was submitted by the California Institute of Technology in performance Contract No. 80NM0018D0004. Submitter asserts that this document contains restricted information that embodies trade secrets or is commercial or financial and privileged or confidential. Such information shall not be disclosed outside of NASA except in accordance with NASA/Caltech Prime Contract No. 80NM0018D0004, clause H-12. This restriction does not limit the Government's right to use this restricted information if it is obtained from another source without restriction. The restricted information subject to this notice is contained in pages [insert page numbers or other identification of pages].

Mark each page containing restricted information the Contractor wishes to restrict with the following legend: This page contains restricted information and is subject to the restriction on the title page of this document.

- (d) The Contracting Officer shall evaluate restricted information marked in accordance with paragraph (c) of this clause. Unless the Contracting Officer decides that reasonable grounds exist to challenge the markings, NASA and its contractors and subcontractors, shall comply with all of the safeguards contained in paragraph (2)(e) and paragraph 1 of this clause.
- (e) To receive access to restricted information needed to assist NASA in accomplishing NASA mission activities and management and administrative functions, the Contractor or subcontractor must be operating under a contract that contains this clause, which obligates the Contractor or subcontractor, with respect to restricted information marked with a legend indicating that use and disclosure of the information is restricted, to do the following:
- (1) Use such restricted information only for the purpose of performing the services specified in its contract;

- (2) Safeguard such restricted information from unauthorized use and disclosure;
 - (3) Allow access to such restricted information only to those employees and subcontractors that need it to perform services under the contract;
 - (4) Preclude access and disclosure of such restricted information to persons and entities outside of the contractor's or its subcontractor's organization(s);
 - (5) 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;
 - (6) Require that each employee that has access to restricted information complies with the obligations regarding restricted information included in this clause; and
 - (7) Return or dispose of such restricted information, as NASA may direct, when the restricted information is no longer needed for performance of work under the contract.
- (f) Exceptions. The obligations and prohibitions of paragraph (e) of this clause do not apply to restricted information which the receiving contractor can demonstrate to the Contracting Officer -
- (1) Was publicly available at the time of receipt by the receiving contractor or thereafter becomes publicly available without breach of the receiving contractor's contract;
 - (2) Was known to, in the possession of, or developed by or for the receiving contractor independently of the restricted information received from the Government and such knowledge, possession, or independent development can be shown;
 - (3) Was received by the receiving contractor 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 contractor to hold it in confidence;
 - (4) 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
 - (5) Is required to be released under a valid order of a court or Government agency, provided that the Contractor provides prior written notice to the owner of the restricted information of such obligation and the opportunity to oppose such disclosure.
- (g) Contractor personnel requiring privileged access or limited privileged access to NASA information technology systems that contain restricted information and that are the primary responsibility of another contractor are subject to screening using the standard National Agency Check (NAC) forms appropriate to the level of risk for adverse

impact to NASA missions. The Contracting Officer may allow the Contractor to conduct its own screening, provided the contractor employs substantially equivalent screening procedures.

- (h) This clause does not affect NASA's responsibilities under the Freedom of Information Act.
- 3. Subcontracts. The Contractor shall insert, or require the insertion of subparagraphs 1 and 2 of this clause, including this paragraph (3), suitably modified to reflect the relationship of the parties, in all subcontracts (regardless of tier).
- 4. Evaluation of Proposals. Whenever the Contractor performs an evaluation of a proposal received from NASA incorporating restricted information, the Contractor agrees that JPL personnel involved in evaluating that proposal and having access to that restricted information shall abide by the obligations of this clause and the "Agreement and Conditions for Evaluation of Proposals" in Attachment B.

H-13 SUBCONTRACT NEW TECHNOLOGY AND PATENT FOLLOW-UP

- (a) In accordance with procedures mutually agreed upon, the Contractor shall:
 - (1) General. Review the technical data submitted for all subcontracts, and the work delivered thereunder, which contain either the New Technology clause or other patent rights clause as required by paragraph (h) of [NFS 1852.227-70, New Technology \(APR 2015\)](#), or paragraph (k) of [FAR 52.227-11, Patent Rights—Ownership by the Contractor \(MAY 2014\)\(Alt IV\)\(JUN 1989\)](#). Any "Reportable Items" of New Technology, or any "Subject Invention", as defined in paragraph (a) of [NFS 1852.227-70](#) which are identified by the Contractor shall be noted and, if not reported by the subcontractor, the Contractor shall request the subcontractor to make the necessary reports.
 - (2) Subcontract Copies. Furnish to the Contracting Officer upon request a copy of a subcontract or subcontracts and a copy of all technical data submitted under such subcontract or subcontracts.
 - (3) Withholding of Payment. Where the "New Technology" clause is included in the subcontract, withhold final payment to the subcontractor pursuant to the withholding provisions of that clause until satisfied that the subcontractor has complied with the provisions of such clause, or, in the case of a disagreement as set forth in (b) below, the Contracting Officer has made a determination that the subcontractor has complied with the provisions of the New Technology clause and the Contractor has received authorization from the Contracting Officer for the release of such withheld funds.
- (b) Subcontract Disagreements. In the event that there is a disagreement between the Contractor and a subcontractor as to whether any invention, discovery, improvement or innovation has been or should be reported, or whether such invention, discovery, improvement or innovation has been properly reported, the Contracting Officer upon notice shall thereupon assume

responsibility for any further follow-up with the subcontractor as to such invention, discovery, improvement or innovation, and for determining compliance by the subcontractor with the New Technology or other patent rights clause.

H-14 PATENT AND NEW TECHNOLOGY SERVICES

The Contractor agrees:

(a) Patent Services. With respect to Patent Services:

- (1) To utilize qualified patent personnel to prepare, at the request of the Contracting Officer, detailed technical descriptions in patent specification form on inventions made by the Contractor's employees and by subcontractors' employees in the performance of work under this Contract or subcontracts issued thereunder provided said subcontractors' employees' inventions have been reported to the Contracting Officer and said inventions were subject inventions at the time of request;
- (2) To utilize qualified patent personnel to prepare, at the request of the Contracting Officer, responsive evaluations of Patent Office Examiners' actions taken on patent applications filed on inventions made by the Contractor's employees and by subcontractors' employees in the performance of work under this Contract provided such applications on said subcontractors' employees' inventions relate to inventions, title to which is vested in the Government;
- (3) To assist NASA patent personnel in evaluation of Patent Office Examiners' actions taken on patent applications filed on inventions made by the Contractor's employees in the performance of work under this Contract;
- (4) To assist in the evaluation of reportable items related to this Contract and subcontracts hereunder;
- (5) To prepare invention award abstracts, at the request of the Contracting Officer, on those reportable items determined to be inventions and on which patent applications have been filed or prepared.

(b) New Technology Services. With respect to New Technology Services:

- (1) To assist in the evaluation of reportable items relating to this Contract and subcontracts hereunder for possible publication in the NASA Tech Briefs magazine, *Spinoff* Magazine, and/or *Innovation* Magazine, publications and evaluation of potential uses for New Technology;
- (2) To furnish available backup materials assembled in a Technical Support Package (TSP) on all reportable items which are made by Contractor or subcontractor employees as defined by [NFS 1852.227-11 \(APR 2015\)](#) and [FAR 52.227-11 \(MAY 2014\)\(Alt IV\)\(JUN 1989\)](#) in this Contract both entitled "Patent Rights—Ownership by the Contractor" and which have been published as a Tech Brief; (Mod 4)

- (3) To furnish written replies to inquiries from NASA, other Government organizations, Government contractors and private individuals or industries, relating to reportable items incorporated in said Tech Briefs, Spinoff, and/or Innovation Magazine, utilizing only information in possession of the Contractor or made available to the Contractor by the Contracting Officer.
- (4) Perform such other work and services as may be provided by a task order issued by the Contracting Officer.

H-15 NASA OFFICES

- (a) The Contracting Officer may require the Contractor to assign adequate space and facilities for Government personnel resident at the JPL Oak Grove facility or a JPL-related facility (e.g., Goldstone Deep Space Communications Complex). The Contractor shall also provide office supplies and equipment, light, power, heat, communications, information technology support and such other support as may be required for the operation of such offices as directed by the Contracting Officer.
- (b) In specific instances, the Contracting Officer may also require the Contractor to provide communication and information technology support for NASA personnel at remote sites in the Southern California area other than the JPL Oak Grove facility and remote facilities related to JPL programs or operations.

H-16 PROPERTY RIGHTS IN RECORDS

(a) Government Records.

- (1) Except as provided in (b) of this clause, all records acquired, generated or maintained by the Contractor in its performance of this Contract shall be the property of the Government and shall be delivered to the Government or otherwise disposed of by the Contractor either as the Contracting Officer or the NASA Records Officer may from time to time direct or, as the Contracting Officer shall direct upon completion or termination of the Contract. This sub-paragraph (a) shall not apply to documents owned by third parties that are in the possession of the Contractor (e.g., documents containing trade secrets of third parties).
- (2) To the extent Government records are in the possession of the Contractor (e.g., Government-owned, Contractor-held), the Government shall have full and prompt access to the same. The Government's full and prompt access to data or records generated (or otherwise produced or prepared) at, by, or for JPL endure irrespective of form or medium of the data and apply to all such data or records without regard to the date or origination of such data or records, and without regard to ownership.
- (3) Government records include, not only the deliverables specified by the Contract, including any Task Order (e.g., scientific and technical data, information, reports, or records), but all books, papers, maps, photographs, machine readable materials, or other documentary materials, regardless of physical form or characteristics, made or received by the Contractor in performance of this Contract. For purposes of this clause,

Government records also includes any supporting or backup data used to create the deliverables, and related scientific, technical, health, safety, security, environmental, administrative, and management data or information.

- (4) Government records include, but are not limited to, all environmental, occupational health, safety, and security records generated during the performance of Government funded activities at, by, or for JPL or for NASA related activities. Such records will be maintained at JPL and are the property of the Government.
 - (5) The Government shall have unlimited rights in information incidental to Contract administration including administrative and management information created under the Contract by the Contractor and specified for delivery to NASA in performance of the Contract, expressly excluding Confidential Contractor financial information. The Government shall also have the right to release such administrative and management information to any third party to satisfy the Government's requirements.
- (b) Contractor Records. Not all records at JPL are Government records; NASA recognizes the right of the Contractor to retain ownership to certain records.
- (1) Contractor-owned records include:
 - (i) Personal notes, logs, memoranda, or other similar documents created by an employee of the Contractor for the employee's own personal convenience and which are not intended for distribution through the normal course of the Contractor's business; and legal records, including legal opinions, litigation files, and documents covered by the attorney-client (i.e., facts confidentially communicated to an attorney from a client for the purpose of seeking legal assistance and opinions given by an attorney based on those facts) and documents covered by the attorney work product privileges;
 - (ii) Employment-related records containing personally identifying information concerning employees (e.g., personnel, payroll, and medical records maintained on individual employees of the Contractor);
 - (iii) Employment-related records not containing personally identifying information concerning employees;
 - (iv) Confidential Contractor financial information, and correspondence between the Contractor and other segments of the Contractor located away from the NASA facility (i.e., the Contractor's corporate headquarters); and
 - (v) Contractor Procurement-related records (confidential financial information and correspondence obtained by the Contractor for use in its subcontracts; source selection and other confidential, pre-decisional, or similar documents relating to the Contractor's deliberative process in selecting subcontractors).

- (vi) Pre-decisional documents that are a direct part of the Contractor's deliberative process in that they make recommendations or express opinions on matters of policy directly affecting the Contractor's business operations.
- (2) In accordance with the Privacy Act of 1974, 5 U.S.C. 552a (P.L. 93-579) and implementing NASA Regulations ([14 CFR 1212, Privacy Act - NASA Regulations](#)), the Contractor shall, upon written direction from the Contracting Officer, maintain one or more separate "Systems of Records" on individuals in order to accomplish the NASA functions and in that case [FAR 52.224-1, Privacy Act Notification \(APR 1984\)](#) and [FAR 52.224-2, Privacy Act \(APR 1984\)](#) shall become applicable.
- (c) Rights in Data. Ownership of documents by either the Government or the Contractor shall not in any way affect the respective rights the parties may otherwise have to data contained on or in the documents under other provisions in the Contract.
- (d) Contract Completion or Termination.
 - (1) In the event of completion or termination of this Contract, the Contractor agrees to leave Government-owned data at the JPL, and upon request of the Government, the Contractor agrees to deliver such Government-owned data to NASA or its designees, including successor contractors.
 - (2) In the event of completion or termination of this Contract, copies of any of the Contractor-owned records identified in paragraph (b)(1)(iii), and (v) of this clause, and with the consent of the employees, (b)(1)(i) and (ii), upon the request of the Government, shall be delivered to NASA or its designees, including successor Contractors. Upon delivery, title to such records shall vest in NASA or its designees, and such records shall be protected in accordance with applicable federal laws (including the Privacy Act), as appropriate.
- (e) Inspection, Copying, and Audit of Records.
 - (1) All records acquired or generated by the Contractor under this Contract in the possession of the Contractor, except those described at paragraph (b)(1)(i), (ii) and (vi) of this clause, shall be subject to inspection, copying, and audit by the Government or its designees at all reasonable times, and the Contractor shall afford the Government or its designees reasonable facilities for such inspection, copying, and audit; provided, however, that upon request by the Contracting Officer, the Contractor shall deliver such records to a location specified by the Contracting Officer for inspection, copying, and audit.
 - (2) Contractor Records described in paragraph (b)(1)(ii) of this clause shall be subject to (e)(1) of this clause, but subject to the following conditions:
 - (i) With regard to personally identifying information that can be redacted from the record, the Contractor shall provide the Government access to the record as expeditiously as possible.

- (ii) The Contractor acknowledges that the Government may, for purposes of health, medical, safety, security, or law enforcement, need access to records containing information identifiable to individual employees of the Contractor. With regard to these records, the Contractor shall provide the Government access to the record in accordance with applicable law, legal process, or subpoena. The Government shall use such records in accordance with applicable federal laws (including the Privacy Act), as appropriate.
 - (3) The parties agree that it is in their mutual interest for the Contractor to conduct self-assessments that are kept confidential to the Contractor. The Contractor agrees that it will notify NMO of any self-assessments that are initiated and will promptly brief NMO on actions intended to be taken as a result of such self-assessments. Upon completion, the Contractor will report and certify which actions were taken. It is the intent of the Government and the Contractor, however, that any record documenting the self-assessment be strictly confidential and not be available to the Government or any third party without the express consent of the Contractor.
 - (4) In those instances where a basis for asserting a joint defense privilege exist, the Contractor will provide attorney/client privileged or work product information to counsel for NASA pursuant to a joint defense agreement.
 - (5) Without limiting the generality of the foregoing, the Contractor may use, make, or retain copies of Government records to the extent necessary to perform work generally described in Section C of this Contract.
- (f) Records Retention and Storage.
- (1) Government Owned, Contractor-held records shall be maintained by the Contractor in accordance with [NPD 1440.6](#) and [NPR 1441.1](#).
 - (2) The Contractor shall ensure that Contractor-owned records can be segregated from Government-owned, Contractor-held records.
 - (3) The NASA Record Retention Schedules (i.e., [NPR 1441.1](#)) are applicable for the classes of records described therein for Government records. The Contractor shall provide container lists for all storage boxes containing such records in accordance with at least the secondary identification codes (e.g., 1150) for files falling within the 1000 series and primary identification codes (e.g., 2100) for files falling within the 2000 through 9000 series as set forth in the NASA Record Retention Schedules when files are sent to Record Storage. The Contractor will implement [NPR 1441.1](#) for records disposition.
 - (4) Any such documents delivered to and stored by the Government may, during their period of storage, be made available to the Contractor for inspection, copying and use, upon its request. The Contractor shall submit requests for such documents stored by the Government through the Contracting Officer for processing.
 - (5) Contractor shall provide NASA personnel full access to the JPL Archives.

- (6) Upon request, the Contractor shall submit to the Contracting Officer the latest inventory of the catalogued records in the JPL archives and to the NASA Records Officer statistics and reports concerning records under the Contractor's control as requested by the NASA Records Officer of all NASA Installation records managers.

H-17 MARKING OF TECHNICAL DATA

Technical data and computer software created under this Contract at JPL and delivered to the Government shall not be marked with any marking limiting its disclosure and use by the Government. The Contractor shall promptly correct any mismarking.

H-18 LIMITATION OF LIABILITY

The provisions of [FAR 52.246-24 \(FEB 1997\), Limitation of Liability—High Value Items](#), shall apply to all items delivered to the Government under this Contract, which have a unit cost exceeding \$100,000. The provisions of [FAR 52.246-23 \(FEB 1997\) Limitation of Liability](#) and [FAR 52.246-25 \(FEB 1997\), Limitation of Liability—Services](#), shall apply to all other items delivered to the Government under this Contract.

H-19 LIABILITY FOR SUBCONTRACTOR'S DEFECTIVE COST OR PRICING DATA

[Clause 52.215-10, Price Reduction For Defective Cost or Pricing Data \(AUG 2011\)](#) is incorporated into the Contract with the understanding that the clause does not require that the Contractor submit a Certificate of Current Cost or Pricing Data under this Contract.

H-20 PREVENTING PERSONAL CONFLICTS OF INTEREST

- (a) [FAR Clause 52.203-16, Preventing Personal Conflicts of Interest \(DEC 2011\)](#) shall apply to work in which one or more Contractor "covered employees" (as defined in [FAR 52.203-16](#)) are involved in the performance of acquisition functions closely associated with inherently governmental functions for, or on behalf of the Government, i.e., assisting in the writing of Government solicitations, or the review of proposals being evaluated for award by the Government; participation on Government-led Standing Review Boards; and participation in Government Acquisition Strategy Meetings related to JPL-led programs and projects.
- (b) The Contractor shall include the substance of [FAR Clause 52.203-16, Preventing Personal Conflicts of Interest \(DEC 2011\)](#) in subcontracts that exceed \$150,000; and in which one or more subcontractor employees (i.e., instead of performance only by a self-employed individual) are involved in the performance of acquisition functions closely associated with inherently governmental functions for, or on behalf of the Government, i.e., assisting in the writing of Government solicitations, or the review of proposals being evaluated for award by the Government; participation on Government-led Standing Review Boards; and participation in Government Acquisition Strategy Meetings related to JPL-led programs and projects.

H-21 AUDIT NEGOTIATION—ACCESS TO COMPUTERS

In applying the provisions of [FAR 52.215-2, Audit and Records—Negotiation \(OCT 2010\) \(ALT I\)\(MAR 2009\)\(ALT II\)\(AUG 2016\)](#) it is understood and agreed that this clause with regard to computer access, pertains primarily to access to information that is stored on computers used at JPL rather than access to the computers themselves. When the Contractor is required to provide information pursuant to the requirements of this clause which is on computers used by JPL personnel it shall therefore be provided in any media or form normally used by the Contractor and which can be utilized by the auditors on their computers. At their option, Government auditors may be present when the Contractor extracts, compiles or otherwise processes information or test transactions on or from computers used by JPL personnel for the purpose of providing information to Government auditors. Government auditors will also be provided, at their option, access to physically inspect and inventory computer systems, equipment, and software used at JPL. This clause is applicable to all computers used at JPL, regardless of who owns the computers.

H-22 COMPETITION IN SUBCONTRACTING

In applying [FAR 52.244-5, Competition in Subcontracting \(DEC 1996\)](#), subcontracts are to be awarded on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the Contract. The Contractor shall send the Contracting Officer an informational copy of all noncompetitive source board waivers exceeding \$5,000,000 promptly upon issuance. The Contracting Officer shall advise the Contractor of any waiver concerns within five working days unless extended. Upon noncompetitive source board evaluation and selection of a procurement that exceeds \$10,000,000, the Contractor shall forward the selection memorandum to the Contracting Officer for concurrence.

H-23 CONTRACTOR'S USE OF GOVERNMENT PROPERTY

- (a) Pursuant to [FAR 52.245-9, "Use and Charges" \(APR 2012\)](#), paragraph (b)(3), for the duration of this Contract, the Contractor is granted authorized use without charge for such work, to use Government property, buildings, and facilities on a rent-free, non-interference basis for the Contractor's research, development, or educational programs and related administration. This authorization benefits NASA as a recipient of knowledge gained or transferred from research and collaboration, independent research and development, and exploration at JPL and all Contractor facilities. The contractor will not acquire property solely for the purposes discussed in this provision. The Contractor will not authorize profit-making subcontract organizations to use government property for commercial purposes.
- (b) This authorization permits Government property to be used at the Contractor's campus facilities and at other locations. Property will be loaned to these locations, on a non-interference, no charge loan basis, under written procedures, including property and reporting procedures that must be approved by the Contracting Officer. However, Government property that has no use under this Contract will not be retained solely for the Contractor's use, and will be dispositioned in accordance with the property terms of this Contract.

H-24 MONTHLY PROPERTY FINANCIAL REPORTING

- (a) Per CDRL PR-002, the Contractor shall provide monthly property financial reports, electronically submitted, using the Contractor-Held-Asset Tracking System (CHATS) in the format described in the CHATS user's manual. Monthly property financial reports shall be submitted with item level supporting data. This data shall be submitted for all items with an acquisition cost of \$500,000 or more, in the Contractor's and subcontractors' possession, in the following classifications: real property, equipment, special test equipment, special tooling, and agency peculiar property. Monthly reporting is not required for property in the above classifications with an acquisition cost under \$500,000. Monthly data shall also be submitted for items of any acquisition cost in the classifications of materials, construction in progress (CIP), and contract work-in-process (CWIP). Itemized monthly data is required for materials and WIP line items of \$500,000 and over. Summary monthly data is required for materials line items under \$500,000. For CIP and CWIP the total cost regardless of values will be reported.
- (b) Acquisition costs should be developed using actual costs to the greatest extent possible, especially costs directly related to fabrication such as labor and materials. Supporting documentation shall be maintained and available for all amounts reported, including any amounts developed using estimating techniques.
- (c) Adjustments shall be thoroughly explained and directly related to a specific fiscal year. If the fiscal year cannot be determined, the default shall be the previous fiscal year.
- (d) Contractor acquired property (CAP), CWIP, and any new materials acquired will be reported to the Task Order defined WBS structure and not a separate WBS structure.
- (e) The Monthly reports are due the 21st day of the month following the calendar month to be reported.
- (f) The Monthly reports required by this clause are separate from and in addition to the annual NF1018 reports required under G-2 of this Contract.

H-25 SUBCONTRACTOR PROGRESS PAYMENTS

In making progress payments to subcontractors and suppliers on fixed price subcontracts, the Contractor shall use the policies, standards, and procedures of Subpart [32.2](#) and [32.5](#) of the FAR and Subparts [1832.2](#) and [1832.5](#) of the NASA FAR Supplement (NFS) as guidelines.

H-26 IMPLEMENTATION OF [FAR 52.203-13, CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT \(OCT 2015\)](#) (MOD 4)

The parties agree that [FAR 52.203-13](#) pertains solely to this Contract and sole Sponsoring Agreement between the Contractor and the Government for the operation of the Jet Propulsion Laboratory.

H-27 CLAUSE FLOWDOWN REQUIREMENT

- (a) Although the following contract clauses are not applicable to the Contractor, the Contractor shall incorporate these clauses, when appropriate and as suitably modified to identify the parties, into its subcontracts. This provision only applies to new subcontracts the Contractor enters into after the Contracting Officer's approval of standard subcontract terms and conditions in accordance with (c) below. Additionally, this provision will not apply to any subcontract when the solicitation for the subcontract was issued prior to the Contracting Officer's approval of the standard terms and conditions in accordance with subparagraphs (b) and (c). This paragraph (a) does not apply to subcontracts for commercial items as defined in [FAR Section 2.101](#).

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| (1) | FAR 52.215-15 | PENSION ADJUSTMENTS AND ASSET REVERSIONS (OCT 2010) |
| (2) | FAR 52.215-17 | WAIVER OF FACILITIES CAPITAL COST OF MONEY (OCT 1997)
[where a subcontract does not include Cost of Money as a proposed cost] |
| (3) | FAR 52.215-18 | REVERSION OR ADJUSTMENT OF PLANS FOR POSTRETIREMENT BENEFITS (PRB) OTHER THAN PENSIONS (JUL 2005) |
| (4) | FAR 52.227-21 | TECHNICAL DATA DECLARATION, REVISION, AND WITHHOLDING OF PAYMENT—MAJOR SYSTEMS (MAY 2014)
[in all subcontracts for a “major system” as notified by the NASA Procurement Officer to be a “major system” pursuant to FAR 34.003(c)] |
| (5) | FAR 52.229-8 | TAXES—FOREIGN COST-REIMBURSEMENT CONTRACTS (MAR 1990) |
| (6) | FAR 52.249-14 | EXCUSABLE DELAYS (APR 1984) |
| (7) | NFS 1852.227-85 | INVENTION REPORTING AND RIGHTS—FOREIGN (APR 2015) |

- (b) The following clauses, suitably modified to identify the parties, shall be included by the Contractor in subcontracts for construction as prescribed in FAR Part 22 for work within the United States. The Contractor shall also require the insertion of said clauses in all lower tier subcontracts for construction that fall within the FAR Part 22 prescriptions. Such clauses are:

FAR Reference No.**Title**

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| (1) | 52.204-2 | SECURITY REQUIREMENTS (AUG 1996) (ALT II) (APR 1984) |
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- (2) [52.222-6](#) [CONSTRUCTION WAGE RATE REQUIREMENTS \(MAY 2014\)](#)
 - (3) [52.222-7](#) [WITHHOLDING OF FUNDS \(MAY 2014\)](#)
 - (4) [52.222-8](#) [PAYROLLS AND BASIC RECORDS \(MAY 2014\)](#)
 - (5) [52.222-9](#) [APPRENTICES AND TRAINEES \(JUL 2005\)](#)
 - (6) [52.222-10](#) [COMPLIANCE WITH COPELAND ACT REQUIREMENTS \(FEB 1988\)](#)
 - (7) [52.222-11](#) [SUBCONTRACTS \(LABOR STANDARDS\) \(MAY 2014\)](#)
 - (8) [52.222-12](#) [CONTRACT TERMINATION—DEBARMENT \(MAY 2014\)](#)
 - (9) [52.222-13](#) [COMPLIANCE WITH CONSTRUCTION WAGE RATE REQUIREMENTS AND RELATED REGULATIONS \(MAY 2014\)](#)
 - (10) [52.222-14](#) [DISPUTES CONCERNING LABOR STANDARDS \(FEB 1988\)](#)
 - (11) [52.222-15](#) [CERTIFICATION OF ELIGIBILITY \(MAY 2014\)](#)
 - (12) [52.222-16](#) [APPROVAL OF WAGE RATES \(MAY 2014\)](#)
 - (13) [52.222-27](#) [AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION \(APR 2015\)](#)
 - (14) [52.225-11](#) [BUY AMERICAN—CONSTRUCTION MATERIALS UNDER TRADE AGREEMENTS \(OCT 2016\)](#)
 - (15) [52.236-5](#) [MATERIAL AND WORKMANSHIP \(APR 1984\)](#)
 - (16) [52.236-7](#) [PERMITS AND RESPONSIBILITIES \(NOV 1991\)](#)
 - (17) [52.236-13](#) [ACCIDENT PREVENTION \(NOV 1991\) \(ALT I\) \(NOV 1991\)](#)
 - (18) [52.236-19](#) [ORGANIZATION AND DIRECTION OF THE WORK \(APR 1984\)](#)
- (c) The Contractor agrees, except to the extent that such subcontracts are exempted by the regulations of the Secretary of Labor or [FAR 52.244-6, Subcontracts for Commercial Items \(NOV 2017\)](#), to insert the following clause with such changes as are necessary to appropriately identify the parties in all subcontracts as applicable: [FAR 52.222-41, Service Contract Labor Standards \(MAY 2014\)](#).
- (d) Additionally, Sections H and I of this Contract may contain other contract flowdown requirements that are not included in the Contractor's previously approved standard subcontract terms and conditions. In accordance with paragraph (e) below, the Contractor shall update its standard subcontract terms and conditions to reflect these changes. The Contractor shall continue to use its previously approved subcontract terms and conditions until the Contractor's new subcontract term and conditions containing the contract flowdown requirements are approved by the Contracting Officer. Additionally, the previously approved subcontract terms and conditions will apply to all solicitations for

subcontracts issued prior to the Contracting Officer's approval of the new standard subcontract terms and conditions.

- (e) Per CDRL SU-007, the Contractor shall submit, within 90 days after the effective date of this Contract, or modifications thereto that change the subcontract flowdown requirements of this Contract, its revised standard terms and conditions incorporating the changes required by paragraphs (a), (b), (c), (d), and (f) for Contracting Officer approval. Once approved by the Contracting Officer, the Contractor shall incorporate the above provisions in its subcontracts consistent with the approved standard terms and conditions.
- (f) In applying the NFS Clauses [1852.228-76 \(OCT 2012\)](#) and [1852.228-78 \(OCT 2012\)](#), the Contractor shall incorporate the appropriate clause into subcontracts, which are for \$100,000 or more when the work to be performed is in support of "Protected Space Operations" as defined in paragraph (b)(5) of each clause.

H-28 PRINTING, DUPLICATING, AND COPYING

- (a) The terms "documentation" referred to in paragraph (a), "printing" referred to in paragraph (b), and "production units" referred to in paragraph (c) of [NFS 1852.208-81, Restrictions on Printing and Duplicating \(NOV 2004\)](#), pertain solely to "Government publications". "Government publications" is defined as (1) reports intended primarily for internal use by the Government and (2) reports or other materials of the type that the Government itself distributes to the public under an agency program. "Government publications" shall, unless subject to exemption under applicable regulations, be printed according to the requirements of [48 CFR Subpart 8.8](#) even though the distribution of these reports and materials may be effectuated by the Contractor for the Government.
- (b) Examples of documents which are "Government publications" include, but are not limited to:
 - (1) publications released by the Contractor or a subcontractor to the public for the purpose of promoting NASA or a Government agency sponsor;
 - (2) deliverable final reports but not interim drafts of such reports;
 - (3) deliverable review board presentations and conclusions in which a majority of the review board membership consists of Government representatives.
- (c) Examples of documents that are not "Government publications" include, but are not limited to:
 - (1) publications for internal JPL usage and communication such as the Universe newsletter;
 - (2) public information, education and public service documents, and award certificates printed for JPL rather than Government usage, including those which may contain an incidental reference to sponsorship by NASA or another Government agency;

- (3) publications for which the printing costs are not paid for by the Government;
 - (4) non-deliverable reports provided to the Government for informational purposes which are suitable for publication in academic, technical or professional journals and similar publications; and
 - (5) review board presentations and conclusions in which a majority of the formal review board membership consists of Contractor or subcontractor representatives, where Government attendance is only incidental, and the contract does not expressly require Government approval of the proceedings.
- (d) Requests for waivers to permit printing of “Government publications” other than via the process defined in [48 CFR Subpart 8.8](#) in cases of exigencies or other appropriate circumstances shall be submitted by the JPL Installation Printing Management Officer to the NASA Printing Management Officer through the Contracting Officer.

H-29 IMPLEMENTATION OF NFS 1852.235-73, FINAL SCIENTIFIC AND TECHNICAL REPORTS (DEC 2006)

[NFS 1852.235-73, Final Scientific and Technical Reports, dated December 2006](#), is incorporated into this Contract with the understanding that paragraphs (a)–(d) are satisfied by the Contractor’s task order-level final reports submitted in accordance with G-5, Task Ordering Procedure.

H-30 COST ACCOUNTING STANDARDS—JPL SUBCONTRACTORS

- (a) Regarding applicable subcontracts entered into under this Contract, as defined in FAR 52.230-2, Cost Accounting Standards (OCT 2015)(NASA PROCUREMENT CLASS DEVIATION 18-04, JULY 2018) (Mod 3), the following shall apply: First-tier subcontractors shall be required to submit their Disclosure Statements either to the Contractor or to the cognizant Government Contract Administration Officer. However, if a subcontractor has previously submitted its Disclosure Statement to another Government Administrative Contracting Officer the Subcontractor may satisfy that requirement by certifying to the Contractor the date of the Statement and the address of the Contracting Officer administering the contract.
- (b) In any case where a subcontractor lower than the first-tier determines that the Disclosure Statement information is privileged and confidential and declines to provide it to a higher tier subcontractor, the first-tier subcontractor may authorize direct submission of that lower-tier subcontractor’s Disclosure Statement to the same Government offices to which the first-tier subcontractor was required to make submission of its Disclosure Statement.
- (c) If a subcontractor is a business unit which, pursuant to 48 CFR 9903.201-2(b)(OCT 2010), is entitled to elect modified contract coverage and to follow Cost Accounting Standard 9904.401 (Consistency in Estimating, Accumulating, and Reporting Costs) Cost Accounting Standard 9904.402 (Consistency in Allocating Costs Incurred for the Same Purpose), Cost Accounting Standard 9904.405 (Accounting for Unallowable Costs), and Cost Accounting Standard 9904.406 (Cost Accounting Period), all of which Standards are referenced in 48 CFR 9903.201-2(b)(OCT 2010), the clause at FAR 52.230-3, Disclosure and Consistency of

Cost Accounting Practices (OCT 2015)(NASA PROCUREMENT CLASS DEVIATION 18-04, JULY 2018) (Mod 3), shall be inserted in lieu of the clause prescribed in paragraph (d) of FAR 52.230-2, Cost Accounting Standards (OCT 2015)(NASA PROCUREMENT CLASS DEVIATION 18-04, JULY 2018) (Mod 3), of this Contract.

H-31 PROTECTION OF SCIENTIFIC AND TECHNICAL INFORMATION OF NATIONAL INTEREST

NASA requires that its scientific and technical information (STI) that may impact the United States' national economic and/or national security interests and/or U.S. competitiveness be protected. Consistent with these concerns, the Contractor shall comply with the terms of this Contract and with United States laws and regulations in the dissemination of technical information.

- (a) The Contractor shall manage the informational results of its research and development efforts by conducting an STI Program. STI is defined as the results (the analyses of data and facts and resulting conclusions) of basic and applied scientific, technical, and related engineering research and development;
- (b) The Contractor shall collect, manage, disseminate, safeguard, and have archived its NASA STI for use by NASA and NASA contractors and grantees, and where appropriate, the public, to advance scientific and technical knowledge in support of NASA's goals in science, exploration, and aeronautics, strengthen the effectiveness and improve the productivity and cost effectiveness of the NASA research effort, reduce unnecessary duplication, and improve U.S. competitiveness in science and technology.
- (c) Unless restricted by U.S. statute or regulation or the terms of this Contract, the Contractor shall provide for the "widest practicable and appropriate dissemination" of STI resulting from NASA's research effort, while complying with H-12, Handling, Protection and Release of Restricted Information, and in keeping with the National Aeronautics and Space Act of 1958, as amended;
- (d) Unless restricted by U.S. statute or regulation or the terms of this Contract, the Contractor may initiate, prepare and distribute to persons in the scientific and technical communities unclassified-unlimited (as appropriate) scientific and technical reports, when, in its judgment, such distribution will effectuate the purposes of this Contract or is desirable in order to disseminate scientific and technical knowledge and information;
- (e) The Contractor shall ensure documentation, approval and dissemination of NASA STI are responsive to the following requirements:
 - (1) For all final, formal published reports prepared for NASA funded or sponsored science, technology, research and development, and space flight projects, the Contractor shall submit to NASA:
 - (a) One electronic copy of the STI report;

- (b) One electronic copy of JPL Form 1330, showing approval to disseminate and appropriate release requirements.
- (2) The Contractor shall assume responsibility for reviewing, approving, and correctly marking all reports, including those for export controlled or limited or restricted STI, pursuant to existing U.S. statutes and regulations. No external distribution of such STI may be made prior to such review and marking. Document markings shall be consistent and understandable between NASA and the Contractor, and the reports shall contain appropriate reference to NASA or the appropriate reimbursable sponsor;
- (3) Requirements for STI reports disclosing inventions are addressed in [NASA FAR Supplement \(48 CFR Chapter 18\) Clause 1852.227-70](#), referenced in Section H-13 of this contract;
- (f) The Contractor shall ensure that the following requirements are met for NASA funded or sponsored work that is performed on subcontracts. The Contractor shall submit the subcontractor's final published report to the NASA Contracting Officer. The subcontractor's final published report shall:
 - (1) Indicate that the work is funded by NASA;
 - (2) Be correctly marked to ensure appropriate dissemination; and
 - (3) Be forwarded to the Contractor.

H-32 END OF CONTRACT OPTIONS

- (a) Prior to the end of the Contract's term, the Government may elect to proceed with one or more of the following end of Contract options:
 - (1) An orderly phase-down and closure of the FFRDC,
 - (2) A transfer of sponsorship of the FFRDC to another sponsor;
 - (3) A transition of the FFRDC to another contractor, or
 - (4) A renewal of the Contract with the Contractor.
- (b) This provision does not alter the Government's right to terminate the Contract pursuant to the termination provisions of the Contract, as the circumstances dictate.
- (c) Phase-down.
 - (1) Notice. The Contracting Officer will provide the Contractor with notification of its election to phase-down the FFRDC prior to the expiration date of the Contract.
 - (2) Phase-down Period. The phase-down period will commence at the end of the Contract term. The phase-down shall not exceed two years unless the parties mutually agree to

an extension. The Contract term set forth in Section F shall be extended to coincide with the phase-down period and any extensions thereof.

- (3) Terms and Conditions. The terms and conditions in this Contract shall be applicable during any phase-down period except that the Scope of Work set forth in Section C will be revised to incorporate any phase-down plan that the parties agree to implement as set forth in subparagraph (c)(6) below.
- (4) Phase-down Costs. NASA will reimburse the Contractor for phase-down costs that are related to the orderly shutdown of the FFRDC and close out of the Contract provided they are reasonable, allocable and allowable under cost principles identified in Clause B-5 (Allowable Costs) of the Contract. This may include costs related to the disposal of assets and reassignment, and assumption or settlement of accrued liabilities incurred by the Contractor during the course of performance. The Government recognizes that all such costs may not be identified prior to the expiration of the phase-down period. NASA will reimburse the Contractor for such costs that are identified after Contract expiration only to the extent they meet the applicable cost principles.
- (5) Fee. A fee for work performed under phase-down activities will be negotiated by the parties prior to initiation of the activity.
- (6) Proposed Schedule and Objectives for Phase-down.
 - (i) Within 120 days after the initial notification, NASA shall provide the Contractor with its proposed objectives for the phase-down process as well as a proposed schedule for phase-down. NASA will provide the Contractor with (1) a list of the task orders it intends to allow to continue during phase-down; (2) the proposed term of the phase-down; and (3) a proposed listing of the tasks that the Government expects to remain incomplete at the expiration of the phase-down period.
 - (ii) Within 120 days of receipt of NASA's proposal, the Contractor shall provide a proposal describing the activities required for phase-down and Contract close out and associated cost estimates. Additionally, the Contractor shall immediately use its best efforts to mitigate cost expenditures for all tasks the Government does not intend to complete during the phase-down, including the exercise of termination provisions in subcontracts or the use of expedited close out procedures when requested by NASA. Using NASA's objectives and the Contractor's proposal, the parties shall enter into good faith negotiations to mutually agree upon an implementation plan for phase-down.
 - (iii) If the parties are unable to reach agreement upon one or more material aspects of an implementation plan within a reasonable period of time, the Contractor may seek to resolve the issues through the disputes process by submitting a claim or claims to the Contracting Officer pursuant to the Contract Disputes Act.
 - (iv) In accordance with specific direction of the Contracting Officer, the Contractor shall begin preparing an inventory of all items that are not deliverable or will not be consumed during the phase-down period of performance. All Government

property on the inventory shall be reported to the NASA Property Officer for disposition instructions as soon as such property is no longer required for the performance of the Contract. Additionally, the Contractor shall promptly provide NASA with recommended disposition of all lease and other use agreements after a careful review of said leases and agreements. When requested by NASA, the Contractor shall attempt to renegotiate such lease or use agreements on non-NASA facilities to fit within the phase-down period of performance if a cost effective agreement can be reached. All Contractor property on NASA facilities shall be subject to Government inspection and accounted for and removed per NASA approved procedures.

(d) Transfer to Another Sponsor.

- (1) Notice. At any time during the term of the Contract, the Contracting Officer may notify the Contractor that NASA has elected to transfer the FFRDC to a new sponsor. Upon receipt of notification, the Contractor shall work with NASA and the successor sponsor to ensure an orderly transfer of the FFRDC. Any such transfer shall not be effective until the Government and the Contractor come to a bilateral agreement on the transfer.
- (2) Transfer Period. The transfer period shall not exceed three months unless the parties mutually agree to an extension. If the transfer should coincide with the expiration of this Contract, the Contract term set forth in Section F shall be extended to coincide with the transfer period and any extensions thereof.
- (3) Transfer Costs. It is expected that transfer of the FFRDC to a new sponsor during the term of the Contract should have no significant impact on the Contractor's substantive performance under each task order as they relate to the current Contract. Similarly, such a transfer is expected to have no significant impact on the day-to-day administration of the current Contract. Accordingly, the parties acknowledge that the transfer of the FFRDC to another sponsor should not result in any unique costs that must be specifically identified for reimbursement. However, in the event such a transfer takes place at the end of the Contract term, the parties acknowledge that the Contractor will be entitled to Contract close out costs in accordance with applicable cost principles set forth in B-5 (Allowable Costs) of the Contract. In addition, if such a transfer occurs in connection with the termination of the Contract by the Government, the parties acknowledge that other costs may be incurred that may be considered for reimbursement by NASA in accordance with the aforementioned cost principles and the termination provisions of this Contract.
 - (i) Terms and Conditions. The terms and conditions in this Contract shall be applicable during any transfer period.
 - (ii) Fee. A fee for work performed under Contract transfer activities will be negotiated by the parties prior to initiation of the activity.

(e) Transition to Another Contractor.

- (1) Notice. Prior to the expiration date of the Contract, the Contracting Officer may notify the Contractor that it has elected to transition the FFRDC to a new contractor at the expiration of the Contract. Upon receipt of notification, the Contractor shall work with NASA and the successor contractor to ensure an orderly transition of the FFRDC.
 - (2) Transition Period. Unless the transition occurs in connection with the termination of the contract, the transition period will commence at the end of the Contract term. The transition period shall not exceed three months unless the parties mutually agree to an extension. The Contract term set forth in Section F shall be extended to coincide with the transition period and any extensions thereof.
 - (3) Transition Costs. The parties acknowledge that the transition of the FFRDC to a new contractor may result in additional costs related to transition activities, in addition to Contract close out costs. NASA will reimburse the Contractor for transition costs related to the orderly transition of the FFRDC to a successor contractor and Contract close out costs provided they are reasonable, allocable and allowable under the cost principles identified in B-5 (Allowable Costs) of this Contract. In the event such a transition takes place in connection with the termination of the Contract by the government, the parties acknowledge that other costs may be incurred that may be eligible for reimbursement by NASA in accordance with the cost principles set forth in B-5 (Allowable Costs) of the Contract.
 - (4) Terms and Conditions. The terms and conditions in this Contract shall be applicable during any transition period.
 - (5) Fee. A fee for work performed under Contract transition activities will be negotiated by the parties prior to initiation of the activity.
 - (6) Successor Contractor Rule. NASA will not reimburse the Contractor for lump sum severance payments made to its employees who are terminated by the Contractor and rehired by the successor contractor in the same or similar positions.
- (f) Renewal of the Contract.
- (1) Notice. Prior to the expiration date of the Contract the Contracting Officer may notify the Contractor of the Government's intent to pursue the possibility of renewing the Contract for an additional term. A ten-month notification period is contemplated but not mandatory. Within ten days of receipt of this notice, the Contractor will provide its response. If the Contractor agrees to pursue a renewal, the parties will engage in good faith negotiations to come to an agreement on the terms of renewal. If the Contractor declines the invitation, the Government will then exercise one or more of its options under subparagraphs (c), (d), or (e), above.

H-33 TRANSITION ACTIVITIES WITH SUCCESSOR CONTRACTOR

- (a) The Contractor recognizes that the work and services covered by this Contract are vital to the NASA mission and must be maintained without interruption, both at the commencement and the expiration of this Contract. It is therefore understood and further agreed in recognition:
- (1) At the expiration of the Contract term or any earlier termination thereof, the Contractor shall cooperate with the successor organization and the Government by allowing its employees to interview for possible employment. If such employees accept employment with the successor organization, the Contractor shall release such employees at a time established by the successor organization or by the Government. The Contractor shall cooperate with the successor organization or the Government with regards to the termination or transfer arrangements for such employees to assure maximum protection of employee service credits and fringe benefits.
 - (2) After selection by the Government of any successor Contractor, the Contractor and such successor Contractor shall jointly prepare detailed plans for transitioning operations. Such plans shall specify a training and orientation program for the successor Contractor to cover each phase of the scope of work covered by the Contract. A proposed date by which the successor Contractor will assume responsibility for such work shall be established. The Contractor shall retain full responsibility for such work until assumption thereof by the successor Contractor. Execution of the proposed plan or any part thereof shall be accomplished in accordance with the Contracting Officer's direction and approval.
 - (3) This clause shall apply to subcontracts as approved by the Contracting Officer.
 - (4) The Contractor shall be reimbursed for all reasonable phase-in and phase-out costs (i.e., costs incurred within the agreed period after *Contract* expiration that result from phase-in and phase-out operations).
- (b) At the expiration of the Contract term or any earlier termination thereof, NASA will either substitute a successor contractor, which will assume the Contractor's performance obligations under the Monk Hill Treatment System Agreement, or itself assume the Contractor's performance obligations, thereby releasing the Contractor from any further performance obligations under the Monk Hill Treatment System Agreement. This clause shall apply to any other agreements the Contractor has entered into pursuant to H-8(b) to ensure the Contractor's performance obligations under these agreements are transitioned to the applicable successor Contractor or to the Government to the extent such Agreements so permit.

H-34 TRANSITION FROM CONTRACT [NNN12AA01C](#)

- (a) This Contract is a successor Contract intended to provide an orderly transition from Contract [NNN12AA01C](#) to this Contract. The transition provisions are set forth below.

- (1) All task orders issued under Contract [NNN12AA01C](#) with statements of work where the technical performance has not been completed as of September 30, 2018, shall on and after October 1, 2018, be transferred to task orders issued under Contract 80NM0018D0004 on and after October 1, 2018. All available funds (with the exception of negative expenditures) which, as of September 30, 2018, remain allotted to such task orders and which are un-costed, as shown by the books and records of the Contractor's JPL operating division and verified by the Government, shall on and after September 30, 2018, be de-obligated from [NNN12AA01C](#) and obligated to 80NM0018D0004. All task orders issued under Contract [NNN12AA01C](#) with statements of work that have been completed shall remain under [NNN12AA01C](#).
- (b) The Contractor agrees to take the following steps in performing the transition between Contract [NNN12AA01C](#) and Contract 80NM0018D0004:
 - (1) Analyze NASA task orders to identify tasks where the period of performance has been completed.
 - (2) Associate all tasks where period of performance has been completed under Contract [NNN12AA01C](#) with LOC draws from Contract [NNN12AA01C](#) LOC.
 - (3) For task orders whose programmatic period of performance has not been completed:
 - (i) Review task orders and update only those task plans that it is mutually agreed do not reflect the current scope of work.
 - (ii) Consistent with the Contractor's standard accounting practices, accrue normal operating costs for work performed but not recorded through September 30, 2018 under Contract [NNN12AA01C](#). (Mod 4)
 - (iii) The Contractor will reverse the standard fiscal year-end accruals for Travel and Inventory transactions transacted prior to September 30, 2018, against the Contract [NNN12AA01C](#) as recorded. The associated expenses for Inventory and Travel transactions will be recognized and recorded to [NNN12AA01C](#) as contractual operational costs as processed by the Contractor's financial systems.
 - (iv) Reverse the accrual against Contract [NNN12AA01C](#) in accordance with the Contractor's standard accounting process in coordination with the receipt and payment of individual vendor invoices and draw from Contract [NNN12AA01C](#) LOC on a first-in-first-out (FIFO) basis at the procurement instrument level from the Contract [NNN12AA01C](#) LOC until the FY18 accrual amount is equaled. Thereafter, draw all labor and material disbursements from a new LOC established by the Government for this Contract (the "Contract 80NM0018D0004 LOC").
 - (v) Charge actual labor and material transactions, plus allocated direct costs processed subsequent to September 30, 2018 to Contract 80NM0018D0004.

- (vi) Draw all disbursements (i.e., labor, material and allocated direct costs), not including accrual amount as reflected in (b) (3) (iv) above, subsequent to September 30, 2018 from the “Contract 80NM0018D0004 LOC.” The Contractor will allocate the LOC cash requirements by task order as described in B-6 (b) (3), Contractor Financing by Letter of Credit.
- (c) All allowable costs, liabilities, and commitments, including but not limited to those attributable to accrued vacation and unemployment compensation, which have been transitioned to, incurred, accrued or made by the Contractor under Contract [NNN12AA01C](#) as of September 30, 2018, but which have not by that date been shown as an expenditure on the books and records of the JPL operating division, shall thereafter be deemed, for all purposes including but not limited to record retention purposes, to be allowable costs, liabilities or commitments incurred, accrued or made under Contract 80NM0018D0004; and subsequent payments to the Contractor by the Government arising out of such costs, liabilities and commitments shall be deemed to have been made under Contract 80NM0018D0004 and shall not be included in the calculation or definition of final payment under Contract [NNN12AA01C](#) nor be subject to the “completion invoice” (or “completion voucher”), assignment, release, or other final payment-related requirements of Section I, Article 10, (Allowable Cost and Payment), of Contract [NNN12AA01C](#).
- (d) All Government property which is in the possession of the Contractor as of September 30, 2018, for the performance of Contract [NNN12AA01C](#) shall remain in the possession of the Contractor for the performance of Contract 80NM0018D0004, subject to subsequent use or disposition thereof in accordance with the applicable provisions of Contract 80NM0018D0004. Effective October 1, 2018, the Contract reflects the transfer of all Government Property in the possession, care, custody and/or control of the Contractor as of September 30, 2018, from Contract [NNN12AA01C](#) (the losing contract) to Contract 80NM0018D0004 (the gaining contract). (Mod 4)

H-35 STOP-WORK ORDER

- (a) The language in Clause [FAR 52.242-15, Stop-Work Order \(AUG 1989\)\(ALT I\)\(APR 1984\)](#) in paragraph (b) that refers to “any other terms of the contract” specifically includes task orders issued under this Contract.
- (b) In applying the provisions of [FAR 52.242-15, Stop-Work Order \(AUG 1989\)\(ALT I\)\(APR 1984\)](#) it is understood and agreed that subparagraph (d) is self-deleting and not applicable to this contract because this contract does not contain a separate provision authorizing a termination for default and subparagraph (d) does not itself provide such authority.

H-36 SECURITY

- (a) In establishing JPL procedures and practices in the areas of security, export control and the hiring, hosting or visits of foreign nationals, the Contractor shall comply with all applicable Federal laws and regulations including the NASA security policy and procedure directives described below, and current mandates of the [National Industrial Security Program Operating Manual \(NISPOM\), DoD 5220.22-M, dated February 28, 2006](#). In any instance where the

[NISPOM](#) and applicable NASA guidance requirements are in disagreement, and then only as it applies to classified national security information, NASA will resolve such disagreements with the Defense Security Service (DSS) and the Contracting Officer shall inform the Contractor of such resolution in writing. The Contractor shall comply with NASA's documented resolution. For those NASA Procedural Requirements (NPRs) and NASA Policy Directives (NDPs) referenced in subparagraphs (a)(8), (a)(10), (a)(11), (a)(12), (a)(13), (a)(14), (a)(15), (a)(16), and (a)(17), the contractor shall carry out the responsibilities identified therein except for the functions that are inherently governmental, as defined in [FAR Subpart 7.5](#) and this contract. Identified inherently governmental functions include, but are not limited to removal or denials of access/appeals process oversight, authorization for issuance of federal credentials, adjudication of federal background investigations, policy oversight of Center Insider Threat Functional Lead and PIV Issuance Facility Manager, and oversight of foreign national access to the JPL facility. While JPL shall support the underlying policies in these areas, the NMO shall be responsible for implementation with assistance from JPL where appropriate.

- (1) [Federal Information Processing Standard \(FIPS\) 201-1, Personal Identification Verification \(PIV\) of Federal Employees and Contractors, dated March, 2006, with Change #1, dated June 23, 2006](#)
- (2) [National Industrial Security Program Operating Manual \(NISPOM\), DoD 5220.22-M, dated February 28, 2006](#)
- (3) [NPD 1600.2](#)
 - i. Section 1 is incorporated with the following understandings:
 - a. All references to security in paragraphs (h) and (i) refer to physical security
 - b. Paragraph (l) is deleted in its entirety and replaced with:
 - (l) Developing, implementing, and maintaining an information database for physical access histories of non-Contractor personnel to include foreign national visitors, representatives, subcontractors, and students.
- (4) [RESERVED](#)
- (5) [NPD 1660.1](#)
- (6) [FAR 52.204-9, Personal Identity Verification of Contractor Personnel \(JAN 2011\)](#)
- (7) [RESERVED](#)
- (8) [NPR 1600.2](#)

In accordance with this NPR, the Contractor shall submit one Visit Authorization Letter for each cleared contract annually. Per CDRL OPS-002, each contract VAL should include basic contract data including name of employer, contract duration,

clearance requirements, and duration of visit (one year) as well as Full Name, Date of Birth, clearance type, Issuing Organization, and clearance issue date at a minimum. A VAL should be provided for all pertinent new employees and visit rescindment letters should be provided when personnel need to be removed. All annual edits should be included in VAL updates and provided to NMO prior to the expiration of the existing VAL.

- (9) [NPR 1600.3](#) is accepted with the following condition: 3.7.10 is accepted with the understanding that all Contractor personnel at JPL holding an active security clearance shall be subject to reasonable suspicion testing, in lieu of random testing.
- (10) [NPR 1620.2](#)
- (11) NPR 1620.3
- (12) [NPR 1660.1](#)
- (13) [NPR 1600.4](#)
- (14) [NPR 1600.1](#)
- (15) [NPD 1600.9](#)
- (16) [NPR 8715.2](#)

H-37 AGREEMENT ON COMPUTER SOFTWARE

- (a) The parties agree that the Contractor shall own all copyrights in computer software, including derivative works, developed under this Contract. Therefore, the Contractor is granted permission to assert copyrights in computer software developed under this Contract, and this Clause H-37 serves as the prior written authorization as specified under [FAR 52.227-14\(c\)\(1\) \(MAY 2014\) \(ALT II, III, V\) \(DEC 2007\)](#) and NASA FAR Supplement [1852.227-14\(3\)\(i\) \(APR 2015\)](#).

For the purposes of this Contract, the term “computer software” is defined as in [FAR 52.227-14\(a\) \(MAY 2014\) \(ALT II, III, V\) \(DEC 2007\)](#). Notwithstanding said Contractor rights, including the right to license such copyrights, the Government shall retain the license set forth in [FAR 52.227-14\(c\)\(iii\) \(MAY 2014\) \(ALT II, III, V\) \(DEC 2007\)](#).

Additionally, for computer software developed under a Task Order under this Contract for NASA’s Earth Science Division within the Science Mission Directorate that is used for processing of scientific data from Earth-orbiting instruments to create data products that are hosted on an Earth Observing System–Distributed Active Archive Center for public distribution, Contractor shall provide an Algorithm Specification Document (ASD) or, at the option of the Contractor, the computer software source code associated with the computer software under a license for the limited purpose of validation of the data products generated by the computer software to any requesting entity. Any ASD provided under such a license shall provide information to validate the data products generated by the computer software

to the same extent that is provided by the computer software source code. The license will be made available at no cost for non-commercial purposes and the Contractor shall negotiate reasonable terms and conditions to provide the license for commercial purposes. The requirements described herein to issue licenses and distribute ASDs or computer software source code are subject to applicable laws, including, without limitation, export control laws and procedures. Should Contractor determine said applicable laws, or other reasons, restrict the dissemination of the ASDs or computer software source code to any requesting entity, Contractor shall inform NASA of such determination including the grounds upon which said determination was based.

- (b) On the licensing or assignment by the Contractor of copyrights on computer software developed under this Contract, the parties agree to share equally in any royalties received from said licensing or assignment. Any payments to inventors and/or authors of software programs shall be calculated and paid prior to division of the remaining royalties between the parties. The Contractor shall provide the U.S. Government its 50 percent share of the gross royalties or monies received by the Contractor, after any payment to inventors and/or authors of computer software, from said licensing or assignment as an offset to allowable costs incurred under this Contract. These funds shall be provided and applied on a quarterly basis specifically as an offset to allowable costs incurred under this Contract in the performance of software technology development, and transfer and commercialization activities at JPL. In addition, the Contractor may elect to provide, in the same manner and for the same purpose, additional royalties or monies received by the Contractor from the licensing or assignment of copyrights on computer software, and other intellectual property developed under this Contract.
- (c) Per CDRL IP-006, the Contractor shall also provide a quarterly report to the Contracting Officer on the licensing of intellectual property rights on computer software developed under this Contract. For such computer software, this report shall include actual licensing and/or assignment of intellectual property rights; the receipt and distribution of gross royalties or monies received by the Contractor during the reporting period; and a listing of active licenses or assignments and the royalty amounts attributed to specific licenses or assignments during the reporting period and the year to date.
- (d) In the licensing and distribution of computer software developed under the Contract, the Contractor agrees to comply with all applicable laws and regulations concerning the export of commodities and technical data.

H-38 AGREEMENT ON ESTABLISHMENT OF RIGHTS, TECHNOLOGY TRANSFER, AND DISTRIBUTION OF INCOME WITH RESPECT TO MASK WORKS

The parties have agreed to the following arrangement in the belief that certainty with respect to the grant of statutory rights in Mask Works will enhance the transfer to third parties of semiconductor chip product technology.

- (a) Per CDRL IP-001, within six (6) months after written disclosure of a Mask Work has been made to Contractor personnel responsible for implementation of H-14 (Patent and New

Technology Services), the Contractor shall furnish the Contracting Officer a full and complete technical report thereon, together with notice of whether or not Contractor elects to apply for registration, or publication with appropriate notice, of any Mask Work to which Contractor elects to retain title. In such instances Contractor will file an application to register Mask Works in a timely manner, but no later than six months after said notification. In the event it fails to do so, the rights otherwise provided to Contractor herein shall revert to the Government, with the reservation of a royalty free, nonexclusive license to Contractor for research and educational purposes.

- (b) In the event Contractor receives royalty or other monetary consideration from the grant of Mask Work rights to a third party, after deduction of 25 percent which includes distribution according to Contractor's established royalty sharing plan, costs associated with registration and licensing, and other administrative costs, the remaining 75 percent shall be shared equally with the Government.
- (c) Per CDRL IP-002, the Contractor shall report such shared income quarterly to the Government specifying the licensed mask works, the licenses, and the income attributed to specific licenses. In the licenses and distribution of Mask Works developed under the Contract, the Contractor shall include statements regarding any export restrictions that may apply, and shall comply with all applicable U. S. export laws and regulations.
- (d) This clause constitutes the permission required to claim copyright under G-12 (References to FAR "Rights in Data" Clause).

H-39 GOVERNMENT-FURNISHED COMPUTER SOFTWARE AND RELATED TECHNICAL DATA

- (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 the Contractor for performance of a Government contract.

"Computer software," "data" and "technical data" have the meaning provided in the Federal Acquisition Regulations (FAR) Subpart 2.1—Definitions and the Rights in Data—General clause ([FAR 52.227-14](#)).

- (b) The Government shall furnish to the Contractor the GFCS described in this contract or in writing by the Contracting Officer. The Government shall furnish related technical data needed for the intended use of the GFCS.
- (c) *Use of GFCS and related technical data.* The Contractor 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 the Contracting Officer.

- (1) The Contractor shall not, without the express written permission of the Contracting Officer, 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) The Contractor 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, the Contractor shall provide to the Government 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 clause(s) included in this contract as modified by clause H-37.
 - (4) The Contractor may provide the GFCS, and any modified or enhanced versions thereof, to 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), the Contractor 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 Contractor the subcontractor is substituted for the Contractor so that the subcontractor has all rights and obligations of the Contractor in the clause.
- (d) The Contracting Officer 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 Contractor for the Government under this contract;
 - (3) Withdraw authority to use the GFCS or related technical data; or
 - (4) Instruct the Contractor 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 the Government.
- (f) *Waiver of Claims and Indemnification.* The Contractor agrees to waive any and all claims against the Government and shall indemnify and hold harmless the Government, its agents, and 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 the Contractor or by any person to whom the Contractor has, without authorization, released or disclosed such GFCS or related technical data. The Government makes no warranty with respect to the serviceability and/or suitability of the GFCS for contract performance. Nothing in this subparagraph shall limit the Contractor's rights under this contract with regards to costs allowability under paragraph B-5, Allowable Cost and [FAR](#)

[52.228-7, Insurance—Liability to Third Persons \(MAR 1996\)](#). 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 the Contractor in a condition not suitable for its intended use.

H-40 PAYMENT OF OVERTIME PREMIUMS

For purposes of administering [FAR 52.222-2, Payment of Overtime Premiums \(JUL 1990\)](#), prelaunch activities and mission performance or delivery related events of an urgent nature shall be deemed to be activities covered by [FAR 52.222-2 paragraph \(a\)\(3\)](#). In order to aid in contract administration, the Contractor shall provide the Contracting Officer with a quarterly report evidencing overtime hours performed, per CDRL FM-001. Upon receipt of a written request from the Contracting Officer, JPL shall provide any additional information in this regard within fifteen calendar days.

H-41 REQUIRED SOURCES OF SUPPLIES AND SERVICES

When acquiring supplies as identified in [NFS 1808.003-70](#), [71](#), and [73](#), the contractor shall utilize specified sources contained therein.

H-42 USE OF FACILITIES PLAN

The Contractor shall prepare, maintain, and comply with a Use of Facilities Communications Plan, per CDRL FA-003. The terms of the Plan shall be subject to the approval of the Director of the NMO. The Plan shall set forth:

- (1) Notification requirements applicable to use of Government-owned and Government-leased facilities provided under C-2 (Resources for Performance of the Contract) of this Contract for specified categories of activity associated with performance of this Contract and
- (2) Approval requirements applicable to use of such facilities by third parties.

H-43 INFORMATION TECHNOLOGY

- (a) The Parties agree that the provision of IT services by the Contractor is incidental to this Contract for research, science, and technology development. Those Information Systems (including networks) managed by the Contractor per Section C-2(a) and CIO Implementation Plans in Attachment A, for systems operating in NASA.gov, will comply with applicable security and privacy requirements listed in I-7, "Security Requirements for Unclassified Information Technology Resources, NFS 1852.204-76," specifically FISMA and Office of Management and Budget (OMB) Circular A-130. When new NASA.gov systems or systems operating outside of the NASA.gov domain space that process NASA Electronic Information are established, the Contractor shall provide information as specified in CDRL IT-003. Contractor agrees that it will not process NASA Electronic Information on any system that does not have an approved security plan. The Contractor shall, in consultation with the NASA OCIO, establish and maintain procedures to substantiate that JPL-related IT and information resources are acquired and managed in a manner that safeguards NASA's IT infrastructure, systems, assets, and information. Authorization to

Operate (ATO) for systems will be the responsibility of the NASA Chief Information Officer or designee.

- (b) The Contractor shall provide an IT environment at JPL that meets the following requirements:
- (1) As outlined in I-7, select and implement appropriate security controls designed to protect the confidentiality, integrity, and availability of the system and its information for all information systems or system-of-systems. Among other elements, include security controls that provide for: (i) incident response training; (ii) incident response testing and exercise; (iii) incident handling; (iv) incident monitoring; (v) incident reporting; and (vii) assessment responsibilities (e.g., NASA or other government auditors; self-assessment; independent verification and validation assessors).
 - (2) The Contractor shall report IT security incidents to NASA Security Operations Center (SOC) and collaborate with NASA SOC in investigation and resolution of IT security incidents and install SOC real-time reporting and monitoring tools on *.NASA.gov networks.
 - (3) NASA shall have the use of all software assets at JPL to the extent allowed by the individual license agreement entered into by the Contractor under this Contract that has been paid for by NASA.
 - (4) The Contractor shall ensure that required changes to NASA OCIO-managed and JPL-managed IT systems and policies are coordinated and implemented.
 - (5) Domains and Websites. In order to ensure compliance with I-7 of the Contract, the Contractor CIO shall provide oversight to all website content developed and maintained under C-1 of this Contract. The Contractor shall use the NASA.gov web portal for web hosting when appropriate, as defined in the CIO Implementation Plan. NASA.gov websites hosted outside of the NASA.gov portal shall also follow the requirements listed herein.
 - (6) All electronic and information technology (EIT) products intended for use by the Government or public, and resulting from work performed under this Contract, regardless of whether or not the product(s) is specified as a deliverable of a task order, shall comply with the requirements of Section 508 of the Rehabilitation Act 29 U.S.C. 794(d), as described by the Architectural and Transportation Barriers Compliance Board ("Access Board") at [36 CFR Part 1194](#). "EIT" is defined by the Access Board at [36 CFR Part 1194.4](#). This requirement does not apply to electronic and information technology that is incidental to the contract or to web pages that are not located at the *.gov web address. The Contractor shall comply with Section 508 requirements, including reporting, unless an exception is documented in writing by the Contracting Officer. Exceptions to the law must be submitted to the Contracting Officer and the appropriate NASA OCIO official in writing and include the specific reason(s), consistent with the exceptions and undue burden considerations permitted under Section 508, why a specific product cannot be made accessible.

- (7) Account Management: The Contractor will manage all accounts on IT systems operated on *.gov and will make records accessible as requested.
- (c) The Contractor shall provide appropriate support to ongoing NASA activities, such as:
 - (1) The Contractor shall support NASA in its reporting efforts about Agency IT and information activities to Agency Officials, NASA OCIO staff and IT Programs, OMB, Congress, the Government Accountability Office, NASA OIG, and other external oversight organizations.
 - (2) The Information Management staffs of the Contractor shall support information management efforts on matters of NASA-wide policies, such as enterprise architecture, agency reporting, systems engineering, and IT Governance processes.
 - (3) The IT staffs of the Contractor shall support NASA information technology prototype, pilot efforts, and IT innovation and technology infusion efforts, as requested by the NASA CIO.
 - (4) In addition to the costs report provided in CDRL IT-002, the Contractor will provide an annual cost report of IT expenditures.
 - (5) The contractor shall support the development of mission IT business cases as requested.
- (d) The contractor shall provide an IT Transition Plan for activities related to compliance with paragraphs (a) and (b)(6) of this section.
- (e) The Contractor shall meet the Government's intent of the Office of the Chief Information Officer's NASA policies and procedures as described in Attachment A. Implementation Plans required for OCIO-related policies will be requested and developed in conjunction with submission of the IT Transition Plan and Section G-13 of this contract.

H-44 LITIGATION MANAGEMENT PLAN

- (a) A litigation management plan is a statement describing in advance the Contractor's practices for managing legal costs for litigation matters for which it procures the services of retained counsel. The Contractor shall prepare a litigation management plan that assures that retained legal counsel provides efficient and effective conduct of JPL-related litigation at a reasonable cost.
- (b) Per CDRL OGC-002, the Contractor shall submit its JPL litigation management plan to the Contracting Officer within 90 days after the effective date of this Contract. The Contractor shall annually review and update its litigation management plan and submit any changes to the Contracting Officer.
- (c) The Contractor is responsible for accounting for costs incurred in connection with procuring the services of retained litigation counsel and for maintaining records adequate to demonstrate that costs claimed have been incurred, are allocable to the Contract, and

comply with the applicable cost principles. The Contractor shall maintain such records for a period of three years after final payment and provide the Government access to such records for purposes of auditing expenditures. The Contractor is responsible for ensuring that the rates for professional fees of retained litigation counsel are reasonable for the services provided.

- (d) The Contractor shall provide notice of JPL litigation to NASA pursuant to [FAR 52.228-7\(g\)\(1\), Insurance—Liability to Third Persons \(MAR 1996\)](#) and shall state whether the Contractor has reached a decision to engage outside counsel and the identity of such counsel. In addition, the notice shall state whether the litigation involves class actions or environmental torts or any other issue that the Contractor reasonable believes is of particular interest to NASA or the Government as a whole. Further, the notice shall state whether the Contractor reasonably anticipates asserting a claim or defense materially adverse to that of the Government.
- (e) For those legal matters charged as a direct cost pursuant to B-5(b) rather than B-5(c)(2) of this Contract, the Contractor, if requested in writing by the Contracting Officer, shall prepare a case assessment as well as a staffing and resource plan for any matter for which the Contractor has given notice to NASA pursuant to [FAR 52.228-7\(g\)\(1\), Insurance—Liability to Third Persons \(MAR 1996\)](#). The Contractor will ordinarily respond to a request for case assessment and/or staffing and resource plan within 30 days after responding to the complaint and will provide the following information:
 - (1) Case budget broken down by phases in the litigation including:
 - (i) Initial case development;
 - (ii) Pretrial pleadings and motions;
 - (iii) Discovery;
 - (iv) Trial preparation and trial; and
 - (v) Appeal.
 - (2) Case assessment including:
 - (i) Comprehensive analysis of the case;
 - (ii) Recommendations for resolution.
 - (3) The procedure for keeping the Contracting Officer informed about the matter as it proceeds through the adjudicator process and, if necessary, interacting with the Department of Justice.
- (f) Nothing in this H-44 is intended to abridge or constitute a waiver of any attorney-client privilege or attorney work product privilege and it is understood that in complying with H-44, the Contractor shall maintain any such privileges.

H-45 INTEGRATION OF ENVIRONMENT, SAFETY, AND HEALTH INTO THE CONTRACTOR'S MANAGEMENT SYSTEM

- (a) For the purposes of H-45,
- (1) 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, the Contractor shall perform work safely, in a manner that ensures 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. The Contractor shall integrate environmental, safety and health requirements into JPL 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. The Contractor shall exercise due care commensurate with the associated hazards of the work. The Contractor shall ensure that management of environment, safety and health functions and activities becomes an integral and visible part of the Contractor's work planning and execution processes. The Contractor shall, in the performance of work, 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 that are necessary to discharge their responsibilities.
 - (4) Resources are effectively 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.
 - (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) The Contractor shall manage and perform work in accordance with a documented site-wide integrated ESHS that fulfills all conditions in paragraph (b) of this clause at a minimum. Documentation of the ESHS shall describe how the Contractor 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 Contractor will measure system effectiveness.
- (d) Per CDRL EV-001, the Contractor shall submit to the Contracting Officer documentation of its ESHS for review and comment. The Contracting Officer will establish dates for submittal, review, and comment on the ESHS documentation. Guidance on the preparation, content, review, and approval of the ESHS will be provided by the Contracting Officer. The Contractor shall review and update its ESHS on an annual basis and submit documentation to the Contracting Officer for review.
- (e) The Contractor shall maintain the integrity of its ESHS and ensure it is integrated with the Contractor's business processes for work planning, budgeting, authorization, execution, and change control.
- (f) The Contractor shall comply with, and assist the Government in complying with, environment, safety and health requirements of all applicable laws and regulations, and applicable Government Policies. The Contractor shall cooperate with Federal and non-Federal agencies having jurisdiction over environment, safety and health matters under this Contract.
- (g) The Contractor shall promptly evaluate and resolve any non-compliance with applicable environmental, safety, and health requirements of this Contract, and the ESHS. If the Contractor fails to provide resolution or if, at any time, the Contractor's action or inaction causes substantial harm or an imminent danger to the environment or health and safety of employees or the public, the Contracting Officer may issue an order stopping work in whole or in part. Any stop work order issued by a Contracting Officer under this clause (or issued by the Contractor to a subcontractor in accordance with paragraph (i) of this clause) shall be without prejudice to any other legal or contractual rights of the Government. In the event that the Contracting Officer issues a stop work order, an order authorizing the resumption of

the work may be issued at the discretion of the Contracting Officer. The Contractor shall not be entitled to an extension of time or additional fee or damages by reason of, or in connection with, any work stoppage ordered in accordance with the warranted exercise of this paragraph of H-45.

- (h) The Contractor is responsible for flowing down the environment, safety and health requirements applicable to this Contract to subcontracts at any tier to the extent necessary to ensure the Contractor's compliance with the requirements.
- (i) The Contractor shall include an Article substantially the same as this H-45 in subcontracts involving hazardous work on site at a NASA-owned or-leased facility. Such subcontracts shall provide for the right to stop work under the conditions described in paragraph (g) of H-45. Depending on the complexity and hazards associated with the work, the Contractor may choose not to require the subcontractor to submit an ESHS for the Contractor's review and approval.

H-46 NASA AUTHORITY DURING EMERGENCIES

- (a) The authority expressed by NASA in H-46 does not in any way reduce or diminish the responsibility the Contractor otherwise has under the terms of this Contract with regard to emergency preparedness and for executing the Emergency Plan prepared pursuant to the Office of Safety and Mission Assurance Technical Authority and NASA Directive Implementation Plan of this Contract.
- (b) The Contractor recognizes that NASA may, in the event of an emergency (e.g., specific environmental, health, safety hazard, or security threat), direct the Contractor to take necessary action to shutdown JPL in a timely, but safe and protective manner. Such direction will be coordinated through the NMO Director or designee and the Contractor's action taken consistent with the Emergency Plan prepared pursuant to the Office of Safety and Mission Assurance Technical Authority and NASA Directive Implementation Plan of this Contract.
- (c) The Contractor further recognizes that NASA may, in the event of an emergency (e.g., specific environmental, health, safety hazard, or security threat), direct the Contractor to take necessary action to timely cooperate with local, State, or federal public safety or emergency response organizations. Such direction will be coordinated through the NMO Director or designee and the Contractor's action taken consistent with the Emergency Plan prepared pursuant to the Office of Safety and Mission Assurance Technical Authority and NASA Directive Implementation Plan of this Contract.

H-47 NASA OFFICE OF INSPECTOR GENERAL PROGRAMS

- (a) It is NASA policy that all NASA contractors cooperate fully with the NASA Office of Inspector General (NASA OIG) and its designees. Particularly in view of JPL's status as a FFRDC, the Contractor agrees to cooperate fully with the NASA OIG during the conduct of its programs, including audits, investigations, inspections, assessments, reviews, or other activities relating to JPL conducted pursuant to the authority conferred upon the NASA Inspector General by the Inspector General Act of 1978, as amended.

- (b) In fulfilling its obligations under section (a) of this clause, the Contractor shall, in collaboration with the NASA OIG, establish and maintain procedures for cooperating with OIG audits, inspections and investigations and for supporting the OIG's investigations into unauthorized intrusions into NASA-owned or NASA-funded computer systems (including networks) operated by JPL. These procedures shall ensure the NASA OIG is timely informed of information that provides a reasonable basis to suspect that a crime may have been committed. Per CDRL OGC-001, the Contractor shall submit these procedures to the OIG for review and comment within 30 days after the effective date of this Contract.
- (c) Nothing in this Contract is intended to abridge or be in derogation of the Inspector General's authority under the Inspector General Act of 1978, as amended.

H-48 RESPONSE TO INFORMATION CORRECTION REQUESTS

As requested by the Government, the Contractor shall validate the accuracy of information that is the subject of a public request for correction pursuant to Section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001 (Public Law 106-554), also known as the Data Quality Act. Pursuant to the requirements of the Act, the Contractor shall determine whether correction of the challenged information is warranted, and if so, the Contractor shall correct the information in accordance with existing statutes, regulations, and procedures. If the Contractor decides not to correct the information, the Contractor shall inform the Government of the reason for the decision. The Contractor shall be responsive to the Government's requests to prepare plans for and report status on adherence to Data Quality Act requirements.

H-49 COORDINATION WITH NASA ON NOTICES AND CORRECTIVE ACTIONS

- (a) For purposes of this clause, the term "Notice" includes, but is not limited to Notice of Deficiency, Notice of Non-compliance, Notice of Violation, Notice of Alleged Violation, Notice of Regulatory Violation, Notice of General Violation, Notice of Serious Violation, or any other similar type communication from a federal, state, or local regulator that has jurisdiction over environmental, safety, and health matters relating to work performed under the Contract.
- (b) Protection of workers, the public, and the environment are fundamental responsibilities of the Contractor. However, the Contractor recognizes JPL is a Government-owned facility and that NASA has certain responsibilities for the conduct of all programs funded through the Contract and for assuring that the Government funds are properly and effectively utilized. Therefore, the Contractor shall establish and maintain a procedure for keeping NASA informed of communications and interactions the Contractor might have with federal, state, or local regulators and for coordinating the Contractor's response with NASA prior to submitting its response to the regulators.
- (c) Consistent with paragraph (b) of H-49, the Contractor shall verbally notify the Contracting Officer or designee within 48 hours of any Notice the Contractor may receive, as described in paragraph (a) of H-49. The Contractor shall notify the Contracting Officer or designee in writing, along with submitting a copy of the Notice, not more than five (5) days after receipt of the Notice.

- (d) Consistent with (b) of this clause, the Contractor shall coordinate the Contractor's proposed response to the Notice with NASA prior to submitting its response to the regulators. Coordination with NASA should be initiated early enough to ensure any time line set forth in the Notice or established by the cognizant regulator is timely met. Continuing coordination by the Contractor with NASA may, depending on the subject matter and circumstances surrounding the Notice, be necessary. If warranted, NASA may provide additional guidance to the Contractor to facilitate the coordination process, especially if a corrective action or other similar response plan must be submitted by the Contractor to the cognizant regulator.
- (e) The Contractor, if requested to do so by the Contracting Officer, shall provide assistance to the Government concerning any matter arising under or relating a Notice as described in paragraph (a) of H-49.
- (f) When NASA or another NASA contractor receives a Notice with respect to a facility described in C-2 (Resources for Performance of the Contract), NASA shall provide (or require its contractor to provide) the Contractor with a copy of the Notice.

H-50 AIRCRAFT OPERATIONS

- (a) Routine flight operations at the JPL Emergency Landing Facility (ELF) are not authorized. The ELF may only be utilized for emergency helicopter operations, with prior approval obtained by the Contractor on a case-by-case basis, from the Armstrong Flight Research Center (AFRC) Director of Flight Operations (DFO) or the AFRC Deputy DFO, if the DFO is not readily available. Additionally, no emergency helicopter operations are authorized at the ELF without the specific approval from the AFRC DFO, or the AFRC Deputy DFO. When emergency operations are conducted, the Contractor will expeditiously notify the NMO Chief, Protective Services Office.
 - (1) Emergency helicopter operations, as applied to the Contractor, shall be conducted in accordance with the JPL Emergency Landing Facility Emergency Operations Plan, per CDRL OPS-001.
- (b) When acquiring, leasing, chartering, or renting aircraft or aircraft services, including but not limited to Unmanned Aerial Systems (UAS) for research, passenger transportation, or technology demonstration, the Contractor will comply with [NPR 7900.3](#) as detailed in the "Office of Strategic Infrastructure (OSI) Implementation Plan—Aircraft Operations Management" included in Attachment A.

H-51 IMPLEMENTATION OF NFS 1852.216-80, TASK ORDERING PROCEDURE (OCT 1996)

[NFS 1852.216-80, Task Ordering Procedure, dated October 1996](#), is incorporated into this Contract with the understanding that under paragraph (a), allocated direct costs and institutional indirect are authorized as specified in B-5, Allowable Costs.

H-52 IMPLEMENTATION OF FAR 52.222-54, EMPLOYMENT ELIGIBILITY VERIFICATION (OCT 2015) (MOD 4)

[FAR 52.222-54, "Employment Eligibility Verification," dated October 2015](#), is incorporated into this Contract with the following understanding: The Contractor's completion of a background investigation and issuance of credentials pursuant to Homeland Security Presidential Directive (HSPD)-12, Policy for a Common Identification Standard for Federal Employees and Contractors, of their employees at JPL is deemed to satisfy the requirements of this clause. This clause shall be inserted in all lower-tier subcontracts where the subcontractor is required to have physical access to a federally-controlled facility or access to a Federal Information System.

H-53 NON-APPLICABILITY OF LOWER-TIER DOCUMENTS

Lower-tier documents referenced in or linked from incorporated NPRs, NPDs and other documents within this Contract, but which are not expressly incorporated into the Contract are not Contract requirements; however, the Contractor is responsible for meeting the overall intent of the lower-tier documents. Through audits, assessments or reviews, NASA may refer the Contractor to specific policies or lower-tier document standards or practices, or portions thereof. The Contractor shall respond with a description of how it believes the overall intent is being or will be met, if needed.

H-54 RESPONSIBILITIES OF CONTRACTOR PERSONNEL

The responsibilities defined within the NPRs, NPDs, and NIDs incorporated into this contract for Center personnel, up to and including the Center Director, are understood to apply to those contractor employees performing specific functions, except for inherently governmental functions as defined in [FAR Subpart 7.5](#), [NPD 1000.3](#), and this contract.

H-55 POST-RETIREMENT BENEFITS

The Parties have agreed to implement a plan that contributes assets to fund existing liabilities for Post-Retirement Benefits (PRB) that have accumulated during the period of performance of prior Contracts between the Parties as well as those incurred during the current Contract relative to the operation of the Jet Propulsion Laboratory (JPL). Accordingly, the Parties agree as follows:

- (a) The Contractor established a trust in the form of a Voluntary Employee Benefit Association (VEBA). The VEBA conforms to the provisions of the Internal Revenue Code (26 U.S.C. §501, paragraph (c) (9)) and applicable regulations.
- (b) The treatment of PRB costs shall be consistent with the provisions of [July 2013 version of the Federal Acquisition Regulation \(FAR\) §31.205-6, paragraph \(o\)](#).
- (c) On August 30, 2012, the Contractor provided to the Contracting Officer (CO), a written plan (Plan) identifying the estimated accumulated PRB liability as of October 1, 2012. This Plan included underlying actuarial assumptions, and a description of the methodology to fund the PRB liability and the process to implement it, including any required changes to the Contractor's accounting system or disclosure statement.

- (d) The Contractor implemented the Plan at the start of fiscal year (FY) 2015 (on or about October 1, 2014). The parties recognized that a new “Initial Base,” (or the total value of the PRB liability at the date funding activities begin) was established and agreed to using a current actuarial report with a value at September 30, 2014. The value of the “Initial Base” liability as of September 30, 2014 was established and agreed to by NASA by December 31, 2014.
- (e) Consistent with FAR, the total PRB liability will be recalculated annually, and differences between actual and estimated experience will be treated consistent with applicable regulations and standards.
- (f) Per CDRL FM-003, the Contractor shall submit a written updated report or briefing to the Contracting Officer identifying the changes, if any, in the yearly “Net Periodic Cost” (which is an actuarially determined amount of liability growth or reduction attributed to a particular year, consisting of Service Cost + Interest Cost – Expected Returns on Assets + Amortizations of Prior Service Costs and/or Gains) and actuarial assumptions no later than March 31st of each calendar year.
- (g) The parties agree that consistent with the FAR, accrued PRB liabilities in excess of PRB Plan assets (the “Initial Base” PRB liability) as of September 30, 2014 will be amortized on a straight-line basis over twenty (20) years beginning on or about October 1, 2014. Accordingly, FY 2015 will be the year of transition from pay-as-you-go to accrual accounting. In addition therefore, the annual funding amounts of the PRB Liability shall be equal to the amortization of the “Initial Base” plus the annual applicable “Net Periodic Cost” to be calculated in accordance with [FAR Part 31.205-6](#), and U.S. generally accepted accounting principles (GAAP), using an accrual-accounting approach. The “Net Periodic Cost” is in addition to the amortization of the “Initial Base” noted above. The PRB will be funded by an adjustment to the Contractor’s fringe rate.
- (h) Any terms, conditions, or clauses contained in the Contract that are impacted by the Plan noted above and related subsequent agreements between the parties shall be modified accordingly.
- (i) The parties agreed that the regular charges to the Contract calculated in accordance with item (d) would begin on or about October 1, 2014. The first Contractor payments from NASA occurred on or about January 1, 2015, in connection with the inception of one or more new benefit plans that the Contractor created in connection with the PRB funding effort. The Contractor shall place these payments from NASA in a separate trust, as required by law. The Contractor shall acquire fiduciary liability insurance to cover the risks associated with the management of the trust.
- (j) If the PRB Plan is terminated, or the termination of a future Contract with no follow-on Contract occurs, disposition of previously funded PRB costs will be treated consistent with the FAR and the requirements of this Contract.

- (k) All terms and conditions of the Plan and any related subsequent agreements between the parties shall be documented in writing and incorporated into the Contract via a bilateral modification.

H-56 IMPLEMENTATION OF I-16, NFS 1852.239-74, INFORMATION TECHNOLOGY SYSTEM SUPPLY CHAIN RISK ASSESSMENT (NASA PROCUREMENT CLASS DEVIATION 15-03C) (SEP 2018) (MOD 5)

Implementation of I-16, NFS 1852.239.74, (NASA Procurement Class Deviation 15-03C) (SEP 2018) will be addressed in the Cybersecurity Implementation Plan called out in the IT Transition Plan dated October 2019, Chapter 4, Information Security.

[END OF SECTION]

PART II—CONTRACT CLAUSES

SECTION I—CONTRACT CLAUSES

I-1 LISTING OF CLAUSES

This Contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available.

I. FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1)

CLAUSE NUMBER	DATE	TITLE
<u>52.202-1</u>	<u>NOV 2013</u>	<u>DEFINITIONS</u>
<u>52.203-3</u>	<u>APR 1984</u>	<u>GRATUITIES</u>
<u>52.203-5</u>	<u>MAY 2014</u>	<u>COVENANT AGAINST CONTINGENT FEES</u>
<u>52.203-6</u>	<u>SEP 2006</u>	<u>RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT</u>
<u>52.203-7</u>	<u>MAY 2014</u>	<u>ANTI-KICKBACK PROCEDURES</u>
<u>52.203-8</u>	<u>MAY 2014</u>	<u>CANCELLATION, RECISSION AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY</u>
<u>52.203-10</u>	<u>MAY 2014</u>	<u>PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY</u>
<u>52.203-12</u>	<u>OCT 2010</u>	<u>LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS</u>
<u>52.203-13</u>	<u>OCT 2015</u>	<u>CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT</u>
<u>52.203-14</u>	<u>OCT 2015</u>	<u>DISPLAY OF HOTLINE POSTER(S)</u>
<u>52.203-16</u>	<u>DEC 2011</u>	<u>PREVENTING PERSONAL CONFLICTS OF INTEREST</u>
<u>52.203-19</u>	<u>JAN 2017</u>	<u>PROHIBITION ON REQUIRING CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS OR STATEMENTS</u>
<u>52.204-4</u>	<u>MAY 2011</u>	<u>PRINTED OR COPIED DOUBLE-SIDED ON POSTCONSUMER FIBER CONTENT PAPER</u>
<u>52.204-9</u>	<u>JAN 2011</u>	<u>PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL</u>

CLAUSE NUMBER	DATE	TITLE
<u>52.204-10</u>	<u>OCT 2016</u>	<u>REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS</u>
<u>52.204-13</u>	<u>OCT 2016</u>	<u>SYSTEM FOR AWARD MANAGEMENT MAINTENANCE</u>
<u>52.204-18</u>	<u>JUL 2016</u>	<u>COMMERCIAL AND GOVERNMENT ENTITY CODE MAINTENANCE</u>
<u>52.208-8</u>	<u>APR 2014</u>	<u>REQUIRED SOURCES FOR HELIUM AND HELIUM USAGE DATA</u>
<u>52.209-6</u>	<u>OCT 2015</u>	<u>PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT</u>
<u>52.209-9</u>	<u>JUL 2013</u>	<u>UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS</u>
<u>52.209-10</u>	<u>NOV 2015</u>	<u>PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS</u>
<u>52.210-1</u>	<u>APR 2011</u>	<u>MARKET RESEARCH</u>
<u>52.211-15</u>	<u>APR 2008</u>	<u>DEFENSE PRIORITY AND ALLOCATION REQUIREMENTS</u>
<u>52.215-2</u>	<u>OCT 2010</u>	<u>AUDITS AND RECORDS—NEGOTIATION (ALT I) (MAR 2009) (ALT II) (AUG 2016)</u>
<u>52.215-8</u>	<u>OCT 1997</u>	<u>ORDER OF PRECEDENCE—UNIFORM CONTRACT FORMAT</u>
<u>52.215-9</u>	<u>OCT 1997</u>	<u>CHANGES OR ADDITIONS TO MAKE OR BUY PROGRAM</u>
<u>52.215-10</u>	<u>AUG 2011</u>	<u>PRICE REDUCTION FOR DEFECTIVE CERTIFIED COST OR PRICING DATA</u>
Clause deleted		(Mod 3)
<u>52.215-14</u>	<u>OCT 2010</u>	<u>INTEGRITY OF UNIT PRICES (ALT I) (OCT 1997)</u>
<u>52.215-19</u>	<u>OCT 1997</u>	<u>NOTIFICATION OF OWNERSHIP CHANGES</u>
<u>52.215-23</u>	<u>OCT 2009</u>	<u>LIMITATIONS ON PASS-THROUGH CHARGES (ALT I) (OCT 2009)</u>
<u>52.216-7</u>	<u>JUN 2013</u>	<u>ALLOWABLE COST AND PAYMENT</u>
<u>52.219-8</u>	<u>NOV 2016</u>	<u>UTILIZATION OF SMALL BUSINESS CONCERNS</u>

CLAUSE NUMBER	DATE	TITLE
<u>52.219-9</u>	<u>JAN 2017</u>	<u>SMALL BUSINESS SUBCONTRACTING PLAN (ALT II) (NOV 2016)</u>
<u>52.219-16</u>	<u>JAN 1999</u>	<u>LIQUIDATED DAMAGES—SUBCONTRACTING PLAN</u>
<u>52.222-1</u>	<u>FEB 1997</u>	<u>NOTICE TO THE GOVERNMENT OF LABOR DISPUTES</u>
<u>52.222-2</u>	<u>JUL 1990</u>	<u>PAYMENT FOR OVERTIME PREMIUMS</u> [Fill-in for paragraph (a): zero]
<u>52.222-3</u>	<u>JUN 2003</u>	<u>CONVICT LABOR</u>
<u>52.222-4</u>	<u>MAY 2014</u>	<u>CONTRACT WORK HOURS AND SAFETY STANDARDS ACT—OVERTIME COMPENSATION</u>
<u>52.222-20</u>	<u>MAY 2014</u>	<u>CONTRACTS FOR MATERIALS, SUPPLIES, ARTICLES, AND EQUIPMENT EXCEEDING \$15,000</u>
<u>52.222-21</u>	<u>APR 2015</u>	<u>PROHIBITION OF SEGREGATED FACILITIES</u>
<u>52.222-26</u>	<u>SEP 2016</u>	<u>EQUAL OPPORTUNITY</u>
<u>52.222-29</u>	<u>APR 2015</u>	<u>NOTIFICATION OF VISA DENIAL</u>
<u>52.222-35</u>	<u>OCT 2015</u>	<u>EQUAL OPPORTUNITY FOR VETERANS (ALT I) (JUL 2014)</u>
<u>52.222-36</u>	<u>JUL 2014</u>	<u>EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES (ALT I) (JUL 2014)</u>
<u>52.222-37</u>	<u>FEB 2016</u>	<u>EMPLOYMENT REPORTS ON VETERANS</u>
<u>52.222-40</u>	<u>DEC 2010</u>	<u>NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT</u>
<u>52.222-50</u>	<u>MAR 2015</u>	<u>COMBATING TRAFFICKING IN PERSONS</u>
<u>52.222-54</u>	<u>OCT 2015</u>	<u>EMPLOYMENT ELIGIBILITY VERIFICATION</u>
<u>52.222-62</u>	<u>JAN 2017</u>	<u>PAID SICK LEAVE UNDER EXECUTIVE ORDER 13706</u>
<u>52.223-2</u>	<u>SEP 2013</u>	<u>AFFIRMATIVE PROCUREMENT OF BIOBASED PRODUCTS UNDER SERVICE AND CONSTRUCTION CONTRACTS</u>

CLAUSE NUMBER	DATE	TITLE
<u>52.223-3</u>	<u>JAN 1997</u>	<u>HAZARDOUS MATERIALS IDENTIFICATION AND MATERIAL SAFETY DATA (ALT I)(JUL 1995)</u> [shall be included in task orders that include an identified list of hazardous materials for delivery.] [Fill-in for paragraph (b): to be determined]
<u>52.223-6</u>	<u>MAY 2001</u>	<u>DRUG-FREE WORKPLACE</u>
<u>52.223-7</u>	<u>JAN 1997</u>	<u>NOTICE OF RADIOACTIVE MATERIALS</u> [Fill-in for paragraph (a): 30 days]
<u>52.223-9</u>	<u>MAY 2008</u>	<u>ESTIMATE OF PERCENTAGE OF RECOVERED MATERIAL CONTENT FOR EPA-DESIGNATED ITEMS (ALT I) (MAY 2008)</u> [Fill-in for paragraphs (b)(1) and (b)(2): (1) Estimate the percentage of the total recovered material used in contract performance, including, if applicable, the percentage of post-consumer material content and (2) Submit this estimate to NMO Health, Safety and Environmental Manager and NASA Headquarters, per CDRL XX-008.]
<u>52.223-10</u>	<u>MAY 2011</u>	<u>WASTE REDUCTION PROGRAM</u>
<u>52.223-11</u>	<u>JUN 2016</u>	<u>OZONE-DEPLETING SUBSTANCES AND HIGH GLOBAL WARMING POTENTIAL HYDROFLUOROCARBONS</u>
<u>52.223-12</u>	<u>JUN 2016</u>	<u>MAINTENANCE, SERVICE, REPAIR, OR DISPOSAL OF REFRIGERATION EQUIPMENT AND AIR CONDITIONERS</u>
<u>52.223-13</u>	<u>JUN 2014</u>	<u>ACQUISITION OF EPEAT-REGISTERED IMAGING EQUIPMENT</u>
<u>52.223-14</u>	<u>JUN 2014</u>	<u>ACQUISITION OF EPEAT-REGISTERED TELEVISIONS</u>
<u>52.223-18</u>	<u>AUG 2011</u>	<u>ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING</u>
<u>52.223-19</u>	<u>MAY 2011</u>	<u>COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT SYSTEMS</u>
<u>52.223-20</u>	<u>JUN 2016</u>	<u>AEROSOLS</u>
<u>52.223-21</u>	<u>JUN 2016</u>	<u>FOAMS</u>
<u>52.224-1</u>	<u>APR 1984</u>	<u>PRIVACY ACT NOTIFICATION</u>

CLAUSE NUMBER	DATE	TITLE
<u>52.224-2</u>	<u>APR 1984</u>	<u>PRIVACY ACT</u>
<u>52.224-3</u>	<u>JAN 2017</u>	<u>PRIVACY TRAINING</u>
<u>52.225-1</u>	<u>MAY 2014</u>	<u>BUY AMERICAN—SUPPLIES</u>
<u>52.225-8</u>	<u>OCT 2010</u>	<u>DUTY FREE ENTRY</u>
<u>52.225-13</u>	<u>JUN 2008</u>	<u>RESTRICTIONS ON CERTAIN FOREIGN PURCHASES</u>
<u>52.226-1</u>	<u>JUN 2000</u>	<u>UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES</u>
<u>52.227-1</u>	<u>DEC 2007</u>	<u>AUTHORIZATION AND CONSENT (ALT I) (APR 1984)</u>
<u>52.227-2</u>	<u>DEC 2007</u>	<u>NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT</u>
<u>52.227-10</u>	<u>DEC 2007</u>	<u>FILING OF PATENT APPLICATIONS—CLASSIFIED SUBJECT MATTER</u>
<u>52.227-11</u>	<u>MAY 2014</u>	<u>PATENT RIGHTS—OWNERSHIP BY THE CONTRACTOR (ALT IV) (JUN 1989)</u>
<u>52.227-14</u>	<u>MAY 2014</u>	<u>RIGHTS IN DATA—GENERAL (ALT II, III, V) (DEC 2007)</u> [as modified by <u>NASA FAR Supplement 1852.227-14</u> for all task orders not for basic or applied research]
<u>52.227-16</u>	<u>JUN 1987</u>	<u>ADDITIONAL DATA REQUIREMENTS</u>
<u>52.228-7</u>	<u>MAR 1996</u>	<u>INSURANCE—LIABILITY TO THIRD PERSONS</u>
Clause deleted		(Mod 3)
Clause deleted		(Mod 3)
<u>52.230-6</u>	<u>JUN 2010</u>	<u>ADMINISTRATION OF COST ACCOUNTING STANDARDS</u>
<u>52.232-9</u>	<u>APR 1984</u>	<u>LIMITATION ON WITHHOLDING OF PAYMENTS</u>
<u>52.232-17</u>	<u>MAY 2014</u>	<u>INTEREST</u>
<u>52.232-20</u>	<u>APR 1984</u>	<u>LIMITATION OF COST</u>
<u>52.232-22</u>	<u>APR 1984</u>	<u>LIMITATION OF FUNDS</u>
<u>52.232-23</u>	<u>MAY 2014</u>	<u>ASSIGNMENT OF CLAIMS</u>

CLAUSE NUMBER	DATE	TITLE
<u>52.232-33</u>	<u>JUL 2013</u>	<u>PAYMENT BY ELECTRONIC FUNDS TRANSFER-SYSTEM FOR AWARD MANAGEMENT</u>
<u>52.232-39</u>	<u>JUN 2013</u>	<u>UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS</u>
<u>52.232-40</u>	<u>DEC 2013</u>	<u>PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS</u>
<u>52.233-1</u>	<u>MAY 2014</u>	<u>DISPUTES (ALT I) (DEC 1991)</u>
<u>52.233-3</u>	<u>AUG 1996</u>	<u>PROTEST AFTER AWARD (ALT I) (JUN 1985)</u>
<u>52.233-4</u>	<u>OCT 2004</u>	<u>APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM</u>
<u>52.237-2</u>	<u>APR 1984</u>	<u>PROTECTION OF GOVERNMENT BUILDINGS, EQUIPMENT, AND VEGETATION</u>
<u>52.242-1</u>	<u>APR 1984</u>	<u>NOTICE OF INTENT TO DISALLOW COSTS</u>
<u>52.242-5</u>	<u>JAN 2017</u>	<u>PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS</u>
<u>52.242-13</u>	<u>JUL 1995</u>	<u>BANKRUPTCY</u>
<u>52.242-15</u>	<u>AUG 1989</u>	<u>STOP-WORK ORDER (ALT I) (APR 1984)</u>
<u>52.243-2</u>	<u>AUG 1987</u>	<u>CHANGES—COST REIMBURSEMENT (ALT III, V) (APR 1984)</u>
<u>52.244-2</u>	<u>OCT 2010</u>	<u>SUBCONTRACTS</u>
<u>52.244-5</u>	<u>DEC 1996</u>	<u>COMPETITION IN SUBCONTRACTING</u>
<u>52.244-6</u>	<u>NOV 2017</u>	<u>SUBCONTRACTS FOR COMMERCIAL ITEMS</u>
<u>52.245-1</u>	<u>JAN 2017</u>	<u>GOVERNMENT PROPERTY</u>
<u>52.245-9</u>	<u>APR 2012</u>	<u>USE AND CHARGES</u>
<u>52.246-23</u>	<u>FEB 1997</u>	<u>LIMITATION OF LIABILITY</u>
<u>52.246-24</u>	<u>FEB 1997</u>	<u>LIMITATION OF LIABILITY—HIGH VALUE ITEMS (APPLICABLE TO PROPERTY OTHER THAN REAL PROPERTY)</u>
<u>52.246-25</u>	<u>FEB 1997</u>	<u>LIMITATION OF LIABILITY—SERVICES</u>
<u>52.247-1</u>	<u>FEB 2006</u>	<u>COMMERCIAL BILL OF LADING NOTATIONS</u>
<u>52.247-63</u>	<u>JUN 2003</u>	<u>PREFERENCE FOR U.S.-FLAG AIR CARRIERS</u>

CLAUSE NUMBER	DATE	TITLE
<u>52.247-64</u>	<u>FEB 2006</u>	<u>PREFERENCE FOR PRIVATELY OWNED U.S.-FLAG COMMERCIAL VESSELS (ALT I) (APR 2003)</u>
<u>52.247-67</u>	<u>FEB 2006</u>	<u>SUBMISSION OF TRANSPORTATION DOCUMENTS FOR AUDIT</u> [Fill-in for paragraph (c): NMO PROPERTY MANAGER, NASA MANAGEMENT OFFICE, 4800 OAK GROVE DR., M/S 180-801, PASADENA, CA 91109]
<u>52.247-68</u>	<u>FEB 2006</u>	<u>REPORT OF SHIPMENT (RESHIP)</u> [shall be included in task orders that involve shipments of classified material; protected sensitive, and protected controlled material; explosives and poisons: class 1, division 1.1, 1.2 and 1.3; class 2, division 2.3 and class 6, division 6.1; or when a truckload/carload shipment of supplies weighing 20,000 pounds or more, or a shipment that occupies the full visible capacity of a railway car or motor vehicle are required for the task; or radioactive materials requiring the use of a III bar label.]
<u>52.250-1</u>	<u>APR 1984</u>	<u>INDEMNIFICATION UNDER PUBLIC LAW 85-804</u>
<u>52.251-2</u>	<u>JAN 1991</u>	<u>INTERAGENCY FLEET MANAGEMENT SYSTEM VEHICLES AND RELATED SERVICES</u>
<u>52.252-6</u>	<u>APR 1984</u>	<u>AUTHORIZED DEVIATIONS IN CLAUSES</u>
<u>52.253-1</u>	<u>JAN 1991</u>	<u>COMPUTER GENERATED FORMS</u>

II. NASA FAR SUPPLEMENT (48 CFR CHAPTER 18) CLAUSES

CLAUSE NUMBER	DATE	TITLE
<u>1852.203-70</u>	<u>JUN 2001</u>	<u>DISPLAY OF INSPECTOR GENERAL HOTLINE POSTERS</u>
<u>1852.203-71</u>	<u>AUG 2014</u>	<u>REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS</u>
<u>1852.216-80</u>	<u>OCT 1996</u>	<u>TASK ORDERING PROCEDURE</u>
<u>1852.216-89</u>	<u>AUG 2016</u>	<u>ASSIGNMENT AND RELEASE FORMS</u>
<u>1852.219-75</u>	<u>APR 2015</u>	<u>INDIVIDUAL SUBCONTRACTING REPORTS</u>
<u>1852.219-77</u>	<u>APR 2015</u>	<u>NASA MENTOR-PROTÉGÉ PROGRAM</u>
<u>1852.219-79</u>	<u>APR 2015</u>	<u>MENTOR REQUIREMENTS AND EVALUATION</u>

CLAUSE NUMBER	DATE	TITLE
<u>1852.223-74</u>	<u>NOV 2015</u>	<u>DRUG- AND ALCOHOL-FREE WORKFORCE</u>
<u>1852.223-76</u>	<u>JULY 2003</u>	<u>FEDERAL AUTOMOTIVE STATISTICAL TOOL REPORTING</u>
<u>1852.228-75</u>	<u>OCT 1988</u>	<u>MINIMUM INSURANCE COVERAGE</u>
<u>1852.234-2</u>	<u>NOV 2015</u>	<u>EARNED VALUE MANAGEMENT SYSTEM (DEVIATION) (ALT I) (NOV 2006)</u> [shall be included in task orders deemed subject to NASA's Earned Value Management Requirements in existence at the time of execution of this Contract.] [Fill-in for both paragraphs (f)(1) and (f)(2): Subcontractors subject to the requirement of this clause are identified in the task plan.]
<u>1852.235-70</u>	<u>DEC 2006</u>	<u>CENTER FOR AEROSPACE INFORMATION</u>
<u>1852.237-70</u>	<u>DEC 1988</u>	<u>EMERGENCY EVACUATION PROCEDURES</u>
		(Mod 5)
<u>1852.242-78</u>	<u>APR 2001</u>	<u>EMERGENCY MEDICAL SERVICES AND EVACUATION</u>
<u>1852.243-71</u>	<u>MAR 1997</u>	<u>SHARED SAVINGS</u>
		(Mod 4)
<u>1852.245-76</u>	<u>JAN 2011</u>	<u>LIST OF GOVERNMENT PROPERTY FURNISHED PURSUANT TO FAR 52.245-1</u> [Fill-in: The Government will make available all property as identified in C-2, Resources for Performance of the Contract, paragraph (b).]

I-2 INCORPORATION IN FULL TEXT

The following clauses are incorporated in full text because they require insertion of supplementary information or are deviations.

I-3 [CLAUSES INCORPORATED BY REFERENCE \(FAR 52.252-2\) \(FEB 1998\)](#)

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

FAR: <https://www.acquisition.gov/browse/index/far> (Mod 4)

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

(End of Clause)

I-4 REQUIREMENTS FOR CERTIFIED COST OR PRICING DATA AND DATA OTHER THAN CERTIFIED COST OR PRICING DATA—MODIFICATIONS (FAR 52.215-21) (OCT 2010) (ALT IV) (OCT 2010)

- (a) Submission of certified cost or pricing data is not required.
- (b) Provide data described below: Task plan cost estimate and supporting cost data.

(End of clause)

I-5 SUBCONTRACTS (FAR 52.244-2) (OCT 2010)

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

“Approved purchasing system” means a Contractor’s purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

“Consent to subcontract” means the Contracting Officer’s written consent for the Contractor to enter into a particular subcontract.

“Subcontract” means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

- (b) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (d) or (e) of this clause.
- (c) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that—
 - (1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or
 - (2) Is fixed-price and exceeds—
 - (i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or
 - (ii) For contracts awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

- (d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

Any subcontract or class of subcontracts identified by the Contracting Officer in writing as selected for special surveillance.

- (e) (1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (b), (c), or (d) of this clause, including the following information:
- (i) A description of the supplies or services to be subcontracted.
 - (ii) Identification of the type of subcontract to be used.
 - (iii) Identification of the proposed subcontractor.
 - (iv) The proposed subcontract price.
 - (v) The subcontractor's current, complete, and accurate certified cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.
 - (vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.
 - (vii) A negotiation memorandum reflecting—
 - (A) The principal elements of the subcontract price negotiations;
 - (B) The most significant considerations controlling establishment of initial or revised prices;
 - (C) The reason certified cost or pricing data were or were not required;
 - (D) The extent, if any, to which the Contractor did not rely on the subcontractor's certified cost or pricing data in determining the price objective and in negotiating the final price;
 - (E) The extent to which it was recognized in the negotiation that the subcontractor's certified cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;
 - (F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and
 - (G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element,

management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

- (2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (b), (c), or (d) of this clause.
- (f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination—
 - (1) Of the acceptability of any subcontract terms or conditions;
 - (2) Of the allowability of any cost under this contract; or
 - (3) To relieve the Contractor of any responsibility for performing this contract.
- (g) No subcontract or modification thereof 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 subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).
- (h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.
- (i) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.
- (j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:
 - _____
 - _____
 - _____

(End of Clause)

I-6 SECURITY CLASSIFICATION REQUIREMENTS (NFS 1852.204-75) (SEP 1989)

Performance under this Contract will involve access to and/or generation of classified information, work in a security area, or both, up to the level of TOP SECRET. See Federal Acquisition Regulation clause [52.204-2, Security Requirements \(AUG 1996\) \(ALT I\) \(APR](#)

1984) in this Contract and Attachment F, “DD Form 254, Contract Security Classification Specification.”

I-7 SECURITY REQUIREMENTS FOR UNCLASSIFIED INFORMATION TECHNOLOGY RESOURCES, NFS 1852.204-76 (JAN 2011) (DEVIATION)

- (a) The Contractor shall protect the confidentiality, integrity, and availability of NASA Electronic Information and IT resources and protect NASA Electronic Information from unauthorized disclosure.
- (b) This clause is applicable to all NASA contractors and subcontractors that process, manage, access, or store unclassified electronic information, to include Sensitive But Unclassified (SBU) information, for NASA in support of NASA’s missions, programs, projects and/or institutional requirements. Applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL) provided as an attachment to the Contract. The documents listed in the ADL can be found at: <http://www.nasa.gov/offices/ocio/itsecurity/index.html>. For policy information considered sensitive, the documents will be identified as such in the ADL and made available through the Contracting Officer.
- (c) Definitions.
 - (1) IT resources means any hardware or software or interconnected system or subsystem of equipment, that is used to process, manage, access, or store electronic information.
 - (2) NASA Electronic Information is any data (as defined in the FAR Rights in Data clause of this Contract) or the content of Government records as defined in clause H-16 that is processed, managed, accessed or stored on an IT system(s) in the performance of this NASA Contract.
 - (3) IT Security Management Plan. This plan shall describe the processes and procedures that the Contractor shall follow to ensure appropriate security of IT resources that are developed, processed, or used under this Contract. Unlike the IT Security Plan, which addresses the IT system, the IT Security Management Plan addresses how the Contractor shall manage personnel and processes associated with IT Security on this Contract.
 - (4) IT Security Plan. The IT Security Plan is specific to the IT System and not the Contract. Within 90 days after award, the Contractor shall develop and deliver an IT Security Plan to the Contracting Officer; the approval authority will be included in the ADL. All Contractor personnel requiring physical or logical access to NASA IT resources shall complete NASA’s annual IT Security Awareness training or equivalent training provided by the Contractor, per CDRL IT-001.
- (d) The Contractor shall afford the Government access to the Contractor’s and subcontractors’ facilities, installations, operations, documentation, information contained in databases in accordance with the guidelines regarding Government Records, as outlined in Clause H-16 of this Contract entitled: “Property Rights in Records,” 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 vulnerability testing), investigation and audit to safeguard against threats and hazards to the integrity, availability, and confidentiality of NASA Electronic Information or to the function of IT systems operated on behalf of NASA, and to preserve evidence of computer crime.

- (e) The Contractor shall insert this clause, including this paragraph in all subcontracts that process, manage, access, or store NASA Electronic Information in support of the Agency's mission.

(End of clause)

I-8 RESTRICTION ON FUNDING ACTIVITY WITH CHINA (NFS 1852.225-71)
(FEB 2012)

- (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. Contracts 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. The Contractor 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 the Contractor anticipates making an award to China or Chinese-owned companies, the Contractor must contact the Contracting Officer to determine if funding on this Contract can be used for that purpose.
- (d) Subcontracts - The Contractor shall include the substance of this clause in all subcontracts made hereunder.

(End of clause)

I-9 ALLOWABLE COST AND PAYMENT (FAR 52.216-7) (JUN 2013) (DEVIATION)

- (a) Contractor Payments. The Government shall make payments to the Contractor as work progresses, by means of withdrawals by the Contractor from a Letter of Credit, as described in B-6 of the Contract, (Contractor financing by Letter of Credit). Such payments shall be in amounts determined to be allowable by the Contracting Officer in accordance with this clause, with Clause B-5 of this contract and with other terms and conditions of this contract. Per CDRL FM-013, within fifteen (15) working days after the close of the Contractor's

fiscal month the Contractor will submit to the Contracting Officer, a public voucher (i.e., no pay voucher) supported by a statement (using the same major categories of cost reported on in the NF533 reports) of the costs/expenditures made by the Contractor in the performance of this contract during the prior fiscal month and claimed to constitute allowable costs.

(b) Reimbursing costs.

- (1) For the purpose of reimbursing allowable costs (except as provided in subparagraph (b)(2) of this clause, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term “costs” includes only—
 - (i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;
 - (ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for—
 - (A) Supplies and services purchased directly for the contract and associated financing payments to subcontractors, provided payments determined due will be made—
 - (1) In accordance with the terms and conditions of a subcontract or invoice; and
 - (2) Ordinarily within 30 days of the submission of the Contractor’s payment request to the Government;
 - (B) Materials issued from the Contractor’s inventory and placed in the production process for use on the contract;
 - (C) Direct labor;
 - (D) Direct travel;
 - (E) Other direct in-house costs; and
 - (F) Properly allocable and allowable institutional indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and
 - (iii) The amount of financing payments that have been paid by cash, check or other form of payment to subcontractors.
- (2) Accrued costs of Contractor contributions under employee pension plans shall be excluded until actually paid unless—

- (i) The Contractor's practice is to make contributions to the retirement fund quarterly or more frequently; and
 - (ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractor's indirect costs for payment purposes).
- (3) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractor's expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.
- (c) Small business concerns. A small business concern may receive more frequent payments than every 2 weeks.
- (d) Allocated direct costs.
 - (1) Allowability of the allocated direct costs will be determined in accordance with B-5 of this contract. The Contractor shall promptly respond to any questions concerning allowability and the method(s) used in the collection, control, distribution and accounting of allocated direct costs to the cost objectives of the period, and work with the Contracting Officer to resolve any outstanding issues.
 - (2) The Contractor and the Contracting Officer shall execute a written understanding setting forth any required changes in the Contractor's methods for the collection, control, distribution and accounting of allocated direct costs. Adjustments to the final allocated direct costs or its distribution to the cost objective of the period in question shall be accomplished if those amounts would have had a material effect upon the costs of the period. Any adjustments shall be accomplished by the Contractor in the current period, consistent with NASA's accounting requirements.
 - (3) Questions concerning the allowability of any final allocated direct costs which cannot be resolved by the Contracting Officer and the Contractor shall be deemed to be a dispute within the meaning of the Disputes clause.
- (e) Quick-closeout procedures. Quick-closeout procedures are applicable when the conditions in [FAR 42.708\(a\) \(January 2018\)](#) are satisfied.
- (f) Audit. At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be—
 - (1) Reduced by amounts found by the Contracting Officer not to constitute allowable costs; or
 - (2) Adjusted for prior overpayments or underpayments.

(g) Final payment.

- (1) Per CDRL FM-014, the Contractor shall submit a completion invoice or voucher designated as such and a final SF1034 to close the Letter of Credit, promptly upon closeout of all task orders under this contract. Upon approval of a completion invoice or voucher submitted by the Contractor in accordance with this clause, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.
- (2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest, if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver—
 - (i) An assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and
 - (ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except—
 - (A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known;
 - (B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and
 - (C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractor's indemnification of the Government against patent liability.

(End of Clause)

**I-10 TERMINATION FOR CONVENIENCE OF THE GOVERNMENT
(EDUCATIONAL AND OTHER NONPROFIT INSTITUTIONS)(FAR 52.249-5)
(AUG 2016) (DEVIATION)**

- (a) The Government may terminate performance of work under this contract in whole or, from time to time, in part if the Contracting Officer determines that a termination is in the Government's interest. The Contracting Officer shall terminate by delivering to the Contractor a Notice of Termination specifying the extent of termination and the effective date.
- (b) After receipt of a Notice of Termination and except as directed by the Contracting Officer, the Contractor shall immediately proceed with the following obligations:
 - (1) Stop work as specified in the notice.
 - (2) Place no further subcontracts or orders (referred to as subcontracts in this clause), except as necessary to complete the continued portion of the contract.
 - (3) Terminate all applicable subcontracts and cancel or divert applicable commitments covering personal services that extend beyond the effective date of termination.
 - (4) Assign to the Government, as directed by the Contracting Officer, all right, title, and interest of the Contractor under the subcontracts terminated, in which case the Government shall have the right to settle or pay any termination settlement proposal arising out of those terminations.
 - (5) With approval or ratification to the extent required by the Contracting Officer, settle all outstanding liabilities and termination settlement proposals arising from the termination of subcontracts, the cost of which would be reimbursable in whole or in part, under this contract, approval or ratification will be final for purposes of this clause.
 - (6) Transfer title (if not already transferred) and, as directed by the Contracting Officer, deliver to the Government any information and items that, if the contract had been completed, would have been required to be furnished, including—
 - (i) Materials or equipment produced, in process, or acquired for the work terminated; and
 - (ii) Completed or partially completed plans, drawings, and information, and
 - (7) Complete performance of the work not terminated.
 - (8) Take any action that may be necessary, or that the Contracting Officer may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the Government has or may acquire an interest.

(9) Use its best efforts to sell, as directed or authorized by the Contracting Officer, termination inventory other than that retained by the Government under subparagraph (b)(6) of this clause; *provided, however*, that the Contractor

(i) is not required to extend credit to any purchaser and

(ii) may acquire the property under the conditions prescribed by, and at prices approved by, the Contracting Officer.

The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the Government under this contract, credited to the price or cost of the work, or paid in any other manner directed by the Contracting Officer.

(c) The Contractor shall submit complete termination inventory schedules no later than 120 days from the effective date of termination, unless extended in writing by the Contracting Officer upon written request of the Contractor within this 120-day period.

(d) After termination, the Contractor shall submit a final termination settlement proposal to the Contracting Officer in the form and with the certification prescribed by the Contracting Officer. The Contractor shall submit the proposal promptly but no later than 1 year from the effective date of termination unless extended in writing by the Contracting Officer upon written request of the Contractor within this 1-year period. If the Contractor fails to submit the termination settlement proposal within the time allowed, the Contracting Officer may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.

(e) Subject to paragraph (d) of this clause, the Contractor and the Contracting Officer may agree upon the whole or any part of the amount to be paid because of the termination. This amount may include reasonable cancellation charges incurred by the Contractor and any reasonable loss on outstanding commitments for personal services that the Contractor is unable to cancel; *provided* that the Contractor exercised reasonable diligence in diverting such commitments to other operations. The contract shall be amended and the Contractor paid the agreed amount.

(f) If the Contractor and the Contracting Officer fail to agree in whole or in part on the amount of costs and/or fee to be paid because of the termination of work, the Contracting Officer shall determine, on the basis of information available, the amount, if any, due the Contractor, and shall pay that amount, which shall include the following:

(1) All costs reimbursable under this contract, not previously paid, for the performance of this contract before the effective date of the termination, and those costs that may continue for a reasonable time with the approval of or as directed by the Contracting Officer; however, the Contractor shall discontinue those costs as rapidly as practicable.

(2) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subparagraph (f)(1) of this clause.

- (3) The reasonable costs of settlement of the work terminated, including—
 - (i) Accounting, legal, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data;
 - (ii) The termination and settlement of subcontracts (excluding the amounts of such settlements); and
 - (iii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.
- (4) A portion of the fee payable under the contract, determined as follows:
 - (i) If the contract is terminated for the convenience of the Government, the settlement shall include a percentage of the fee equal to the percentage of completion of work contemplated under the contract, but excluding subcontract effort included in subcontractors' termination proposals, less previous payments for fee.
- (5) If the settlement includes only fee, it will be determined under subparagraph (f)(4) of this clause.
- (g) The cost principles and procedures in B-5 of this contract and [Subpart 31.2 of the Federal Acquisition Regulation \(FAR\)](#), in effect on the date of the Contract, shall govern all costs claimed, agreed to, or determined under this clause.
- (h) The Contractor has the right of appeal as provided under the Disputes clause, except that if the Contractor failed to submit the termination settlement proposal within the time provided in paragraph (d) of this clause and failed to request a time extension, there is no right of appeal.
- (i) The Contractor and Contracting Officer must agree to any equitable adjustment in fee for the continued portion of the contract when there is a partial termination. The Contracting Officer shall amend the contract to reflect the agreement.
- (j)
 - (1) The Government may, under the terms and conditions it prescribes, make partial payments against costs incurred by the Contractor for the terminated portion of this contract, if the Contracting Officer believes the total of these payments will not exceed the amount to which the Contractor will be entitled.
 - (2) If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the Government upon demand, together with interest computed at the rate established by the Secretary of the Treasury under 50 U.S.C. APP. 1215(b)(2). Interest shall be computed for the period from the date the excess payment is received by the Contractor to the date the excess is repaid. Interest shall not be charged on any excess payment due to a reduction in the Contractor's termination settlement proposal because of retention or other disposition of termination inventory

until 10 days after the date of the retention or disposition, or a later date determined by the Contracting Officer because of the circumstances.

I-11 ADVANCE PAYMENTS (FAR 52.232-12) (MAY 2001) (ALT II) (MAY 2001) AS MODIFIED BY NFS 1852.232-70 (APR 2015) (DEVIATION)

- (a) Requirements for payment. Advance payments will be made under this contract under a letter of credit. The Contractor shall withdraw cash only when needed for disbursements acceptable under this contract and report cash disbursements and balances as required by the administering office. The Contractor shall apply terms similar to this clause to any advance payments to subcontractors.
- (b) Use of funds. The Contractor may use advance payment funds only to pay for properly allocable, allowable, and reasonable costs for direct materials, direct labor, indirect costs, or such other costs approved in writing by the administering contracting office. Payments are subject to any restrictions in other clauses of this contract. Determinations of whether costs are properly allocable, allowable, and reasonable shall be in accordance with generally accepted accounting principles, subject to any applicable Subparts of Part 31 of the Federal Acquisition Regulation.
- (c) Repayment to the Government. At any time, the Contractor may repay all or any part of the funds advanced by the Government. Whenever requested in writing to do so by the administering office, the Contractor shall repay to the Government any part of unliquidated advance payments considered by the administering office to exceed the Contractor's current requirements.
- (d) Maximum payment. Unliquidated advance payments, unpaid interest charges, and other payments shall not exceed \$100,000,000 (not including management fee, if any) at any time outstanding for the work under this Contract, or the Government may withhold further payments to the Contractor. Upon completion or termination of the Contract, the Government shall deduct from the amount due to the Contractor all unliquidated advance payments and interest charges payable. The Contractor shall pay any deficiency to the Government upon demand.
- (e) Interest. No interest shall be charged to the prime Contractor for advance payments, except during a period of withholding of advance payment as described in (h) below. The terms of this paragraph concerning interest charges for advance payments shall not apply to the prime Contractor.
 - (1) The Contractor shall pay interest to the Government on the daily unliquidated advance payments at the daily rate specified in paragraph (e)(3) of this clause. Interest shall be computed at the end of each calendar month for the actual number of days involved. For the purpose of computing the interest charge, the following shall be observed:
 - (i) Advance payments shall be considered as increasing the unliquidated balance as of the date of the advance payment check.

- (ii) Repayments by Contractor check shall be considered as decreasing the unliquidated balance as of the date on which the check is received by the Government authority designated by the Contracting Officer.
 - (iii) Liquidations by deductions from payments to the Contractor shall be considered as decreasing the unliquidated balance as of the dates on which the Contractor presents to the Contracting Officer full and accurate data for the preparation of each Letter of Credit draw. Credits resulting from these deductions shall be made upon the processing of the Letter of Credit draw through the Department of Health and Human Services—Payment Management System (DHHS/PMS) based upon the Contracting Officer's certification of the applicable dates.
 - (2) Interest charges resulting from the monthly computation shall be deducted from any payments on account of the management fee due to the Contractor. If the accrued interest exceeds the payment due, any excess interest shall be carried forward and deducted from subsequent payments of the contract price or management fee. Interest carried forward shall not be compounded. Interest on advance payments shall cease to accrue upon (i) satisfactory completion or (ii) termination of the Contract for the convenience of the Government. The Contractor shall charge interest on advance payments to subcontractors in the manner described above and credit the interest to the Government. Interest need not be charged on advance payments to nonprofit educational or research subcontractors for experimental, developmental, or research work.
 - (3) If interest is required under this Contract, the Contracting Officer shall determine a daily interest rate based on the rate established by the Secretary of the Treasury under Pub. L. 92-41 (50 U.S.C. App., 1215(b)(2)). The Contracting Officer shall revise the daily interest rate during the contract period in keeping with any changes in the cited interest rate.
- (f) Lien on property under contract.
- (1) All advance payments under this Contract, together with interest charges, shall be secured, when made, by a lien in favor of the Government, paramount to all other liens, on the supplies or other things covered by this Contract and on all material and other property acquired for or allocated to the performance of this Contract, except to the extent that the Government by virtue of any other terms of this Contract, or otherwise, shall have valid title to the supplies, materials, or other property as against other creditors of the Contractor.
 - (2) The Contractor shall identify, by marking or segregation, all property that is subject to a lien in favor of the Government by virtue of any terms of this Contract in such a way as to indicate that it is subject to a lien and that it has been acquired for or allocated to performing this contract. If, for any reason, the supplies, materials, or other property are not identified by marking or segregation, the Government shall be considered to have a lien to the extent of the Government's interest under this Contract on any mass of property with which the supplies, materials, or other property are commingled. The

Contractor shall maintain adequate accounting control over the property on its books and records.

- (3) If, at any time during the progress of the work on the contract, it becomes necessary to deliver to a third person any items or materials on which the Government has a lien, the Contractor shall notify the third person of the lien and shall obtain from the third person a receipt in duplicate acknowledging the existence of the lien. The Contractor shall provide a copy of each receipt to the Contracting Officer.
- (4) If, under the termination clause, the Contracting Officer authorizes the contractor to sell or retain termination inventory, the approval shall constitute a release of the Government's lien to the extent that-
 - (i) The termination inventory is sold or retained; and
 - (ii) The sale proceeds or retention credits are applied to reduce any outstanding advance payments.

(g) Insurance.

- (1) The Contractor shall maintain with responsible insurance carriers-
 - (i) Insurance on plant and equipment against fire and other hazards, to the extent that similar properties are usually insured by others operating plants and properties of similar character in the same general locality;
 - (ii) Adequate insurance against liability on account of damage to persons or property; and
 - (iii) Adequate insurance under all applicable worker's compensation laws.
- (2) Until work under this Contract has been completed and all advance payments made under the Contract have been liquidated, the Contractor shall-
 - (i) Maintain this insurance;
 - (ii) Maintain adequate insurance on any materials, parts, assemblies, subassemblies, supplies, equipment, and other property acquired for or allocable to this Contract and subject to the Government lien under paragraph (f) of this clause; and
 - (iii) Furnish any evidence with respect to its insurance that the administering office may require.

(h) Withholding of advance payments.

- (1) If any of the following events occur, the Government may, by written notice to the Contractor, withhold further payments on this Contract:
 - (i) A finding by the administering office that the Contractor has failed to—

- (A) Observe any of the conditions of the advance payment terms;
 - (B) Comply with any material term of this Contract;
 - (C) Make progress or maintain a financial condition adequate for performance of this Contract;
 - (D) Limit inventory allocated to this Contract to reasonable requirements; or
 - (E) Avoid delinquency in payment of taxes or of the costs of performing this Contract in the ordinary course of business.
 - (F) Timely comply with the financial reporting requirements in clause B-6 (b)(10), will result in an automatic withholding until the late SF-425 is submitted to DHHS/PMS.
- (ii) The appointment of a trustee, receiver, or liquidator for all or a substantial part of the Contractor's property, or the institution of proceedings by or against the Contractor for bankruptcy, reorganization, arrangement, or liquidation.
 - (iii) The commission of an act of bankruptcy.
- (2) If any of the events described in paragraph (h)(1) of this clause continue for 30 days after the written notice to the Contractor, the Government may take any of the following additional actions:
- (i) Charge interest, in the manner prescribed in paragraph (e) of this clause, on outstanding advance payments during the period of any event described in paragraph (h)(1) of this clause.
 - (ii) Demand immediate repayment by the Contractor of the unliquidated balance of advance payments.
 - (iii) Take possession of and, with or without advertisement, sell at public or private sale all or any part of the property on which the Government has a lien under this Contract and, after deducting any expenses incident to the sale, apply the net proceeds of the sale to reduce the unliquidated balance of advance payments or other Government claims against the Contractor.
- (3) The Government may take any of the actions described in paragraphs (h)(1) and (h)(2) of this clause it considers appropriate at its discretion and without limiting any other rights of the Government.
- (i) Prohibition against assignment. Notwithstanding any other terms of this Contract, the Contractor shall not assign this Contract, any interest therein, or any claim under the Contract to any party.

- (j) Information and access to records. The Contractor shall furnish to the administering office (1) monthly or at other intervals as required, signed or certified balance sheets and profit and loss statements, together with Standard Form 425, Federal Financial Report and, (2) if requested, other information concerning the operation of the contractor's business. The Contractor shall provide the authorized Government representatives proper facilities for inspection of the Contractor's books, records, and accounts.
- (k) Other security. The terms of this contract are considered to provide adequate security to the Government for advance payments; however, if the administering office considers the security inadequate, the Contractor shall furnish additional security satisfactory to the administering office, to the extent that the security is available.
- (l) Representations. The Contractor represents the following:
 - (1) The balance sheet, the profit and loss statement, and any other supporting financial statements furnished to the administering office fairly reflect the financial condition of the Contractor at the date shown or the period covered, and there has been no subsequent materially adverse change in the financial condition of the Contractor.
 - (2) No litigation or proceedings are presently pending or threatened against the Contractor, except as shown in the financial statements.
 - (3) The Contractor has disclosed all contingent liabilities, except for liability resulting from the renegotiation of defense production contracts, in the financial statements furnished to the administering office.
 - (4) None of the terms in this clause conflict with the authority under which the Contractor is doing business or with the provision of any existing indenture or agreement of the Contractor.
 - (5) The Contractor has the power to enter into this contract and accept advance payments, and has taken all necessary action to authorize the acceptance under the terms of this contract.
 - (6) The assets of the Contractor are not subject to any lien or encumbrance of any character except for current taxes not delinquent, and except as shown in the financial statements furnished by the Contractor. There is no current assignment of claims under any contract affected by these advance payment provisions.
 - (7) All information furnished by the Contractor to the administering office in connection with each request for advance payments is true and correct.
 - (8) These representations shall be continuing and shall be considered to have been repeated by the submission of each Letter of Credit draw for advance payments.
- (m) Covenants. To the extent the Government considers it necessary while any advance payments made under this contract remain outstanding, the Contractor, without the prior written consent of the administering office, shall not—

- (1) Mortgage, pledge, or otherwise encumber or allow to be encumbered, any of the assets of the Contractor now owned or subsequently acquired, or permit any preexisting mortgages, liens, or other encumbrances to remain on or attach to any assets of the Contractor which are allocated to performing this contract and with respect to which the Government has a lien under this contract;
- (2) Sell, assign, transfer, or otherwise dispose of accounts receivable, notes, or claims for money due or to become due;
- (3) Declare or pay any dividends, except dividends payable in stock of the corporation, or make any other distribution on account of any shares of its capital stock, or purchase, redeem, or otherwise acquire for value any of its stock, except as required by sinking fund or redemption arrangements reported to the administering office incident to the establishment of these advance payment provisions;
- (4) Sell, convey, or lease all or a substantial part of its assets;
- (5) Acquire for value the stock or other securities of any corporation, municipality, or Governmental authority, except direct obligations of the United States;
- (6) Make any advance or loan or incur any liability as guarantor, surety, or accommodation endorser for any party;
- (7) Permit a writ of attachment or any similar process to be issued against its property without getting a release or bonding the property within 30 days after the entry of the writ of attachment or other process;
- (8) Pay any remuneration in any form to its directors, officers, or key employees higher than rates provided in existing agreements of which notice has been given to the administering office, accrue excess remuneration without first obtaining an agreement subordinating it to all claims of the Government, or employ any person at a rate of compensation over \$(See H-4) a year;
- (9) Change substantially the management, ownership, or control of the corporation;
- (10) Merge or consolidate with any other firm or corporation, change the type of business, or engage in any transaction outside the ordinary course of the Contractor's business as presently conducted;
- (11) Deposit any of its funds except in a bank or trust company insured by the Federal Deposit Insurance Corporation or a credit union insured by the National Credit Union Administration;
- (12) Create or incur indebtedness for advances, other than advances to be made under the terms of this contract, or for borrowings;
- (13) Make or covenant for capital expenditures exceeding \$(See H-4) in total;

- (14) Permit its net current assets, computed in accordance with generally accepted accounting principles, to become less than \$(See H-4); or
- (15) Make any payments on account of the obligations listed below, except in the manner and to the extent provided in this Contract: (See H-4)

(End of Clause)

I-12 LIMITATION OF COSTS (FAR 52.232-20) (APR 1984); LIMITATION OF FUNDS (FAR 52.232-22) (APR 1984) (DEVIATION)

- (a) The parties estimate that performance of this contract will not cost the Government more than the estimated cost specified in the Schedule (See B-2). The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost.
- (b) Each task order specifies the amount presently available for payment by the Government and allotted to such task order, the items covered, and the period of performance it is estimated the allotted amount will cover. The parties contemplate that the Government will allot additional funds incrementally to task orders up to the full estimated cost to the Government specified in each task order, exclusive of any fee. The Contractor agrees to perform, or have performed, work on each task order up to the point at which, in the exercise of reasonable judgment by the Contractor, costs incurred by the Contractor in performing work in-house, plus obligations incurred by the Contractor in subcontracting, approximate the amount of funds then allotted by the Government as specified in each task order.

It is recognized that the point at which the Contractor is required to continue performance does not include an allowance for termination costs which will be incurred in the event the task order is terminated. The Government intends to allot the additional funds necessary to provide for termination costs to any such terminated task order subject to the limitations set forth in paragraph (k) herein and using procedures set forth in Article G-7 (Funds Procedures for Termination of Task Orders).

- (c) The Contractor shall notify the Contracting Officer in writing at least thirty (30) days prior to the date on which, in the reasonable judgment of the Contractor, costs incurred by the Contractor in performing work in-house, plus obligations incurred by the Contractor in subcontracting, will approximate the amount of funds then allotted by the Government as specified in each task order. The notice shall state the estimated amount of additional funds required to continue performance under the task order to completion or for three (3) months, whichever is less.
- (d) If, after notification, additional funds are not allotted by the end of the period specified in the notification or another agreed-upon date, upon the Contractor's written request, the Contracting Officer will terminate the task order on that date in accordance with the provisions of the Termination clause of this contract. If the Contractor estimates that the

funds available will allow it to continue to discharge its obligations beyond that date, it may specify a later date in its request, and the Contracting Officer may terminate this contract on that later date.

- (e) Except as required by other provisions of this contract, specifically citing and stated to be an exception to this clause-
 - (1) The Government is not obligated to reimburse the Contractor for costs incurred in excess of the total amount allotted by the Government to the task order; and
 - (2) The Contractor is not obligated to continue performance of a task order or otherwise incur costs in excess of the amount then allotted to each task order by the Government.
- (f) The estimated cost shall be increased to the extent that the amount allotted by the Government exceeds the estimated cost specified in the task order.
- (g) No notice, communication, or representation in any form or from any person other than the Contracting Officer, shall affect the amount allotted by the Government to a task order. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any costs in excess of the total amount allotted by the Government to a task order, whether incurred during the course of the contract or as a result of termination.
- (h) When and to the extent that the amount allotted by the Government to the contract is increased, any costs the Contractor incurs before the increase that are in excess of the amount previously allotted by the Government shall be allowable to the same extent as if incurred afterward, unless the Contracting Officer issues a termination or other notice and directs that that portion of the increase not required for outstanding obligations be used to cover termination or other specified expenses.
- (i) Change orders shall not be considered an authorization to exceed the amount allotted by the Government specified in a task order, unless they contain a statement increasing the amount allotted.
- (j) Nothing in this clause shall affect the right of the Government to terminate this Contract.
- (k) Notwithstanding any other provision in this contract, in the event this contract is terminated in whole or in part pursuant to the Termination clause of this Contract, and the amounts necessary to settle the termination of any one or more task orders will cause the costs incurred under such task order or orders to exceed the amount allotted thereto then, the limit of the Government's obligation to reimburse the Contractor for such costs shall be the amount allotted thereto and such other available unobligated funds, as determined by NASA, which may be lawfully used for the payment of such costs. The determination by NASA as to the availability of unobligated funds shall not be subject to appeal by the Contractor under the Dispute clause of this Contract.

(End of clause)

**I-13 SUBCONTRACTOR CERTIFIED COST OR PRICING DATA (FAR 52.215-12)
(OCT 2010) (NASA PROCUREMENT CLASS DEVIATION 18-04, JUL 2018)
(DEVIATION) (MOD 3)**

- (a) Before awarding any subcontract expected to exceed \$2,000,000; or before pricing any subcontract modification involving a pricing adjustment expected to exceed \$2,000,000, the Contractor shall require the subcontractor to submit certified cost or pricing data (actually or by specific identification in writing), in accordance with FAR 15.408, Table 15-2 (to include any information reasonably required to explain the subcontractor's estimating process such as the judgmental factors applied and the mathematical or other methods used in the estimate, including those used in projecting from known data, and the nature and amount of any contingencies included in the price), unless an exception under FAR 15.403-1 applies.
- (b) The Contractor shall require the subcontractor to certify in substantially the form prescribed in FAR 15.406-2 that, to the best of its knowledge and belief, the data submitted under paragraph (a) of this clause were accurate, complete, and current as of the date of agreement on the negotiated price of the subcontract or subcontract modification.
- (c) In each subcontract that exceeds \$2,000,000 when entered into, the Contractor shall insert either –
 - (1) The substance of this clause, including this paragraph (c), if paragraph (a) of this clause requires submission of certified cost or pricing data for the subcontract; or
 - (2) The substance of the clause at FAR 52.215-13, Subcontractor Certified Cost or Pricing Data - Modifications, updated to reflect the PCD 18-04 \$2,000,000 threshold as contained in this clause.

(End of Clause)

**I-14 COST ACCOUNTING STANDARDS (OCT 2015) (NASA PROCUREMENT
CLASS DEVIATION 18-04, JUL 2018) (MOD 3)**

- (a) Unless the contract is exempt under 48 CFR 9903.201-1 and 9903.201-2, the provisions of 48 CFR part 9903 are incorporated herein by reference and the Contractor, in connection with this contract, shall -
 - (1) (CAS-covered Contracts Only) By submission of a Disclosure Statement, disclose in writing the Contractor's cost accounting practices as required by 48 CFR 9903.202-1 through 9903.202-5, including methods of distinguishing direct costs from indirect costs and the basis used for allocating indirect costs. The practices disclosed for this contract shall be the same as the practices currently disclosed and applied on all other contracts and subcontracts being performed by the Contractor and which contain a Cost Accounting Standards (CAS) clause. If the Contractor has notified the Contracting Officer that the Disclosure Statement contains trade secrets and commercial or financial information which is privileged and confidential, the

Disclosure Statement shall be protected and shall not be released outside of the Government.

- (2) Follow consistently the Contractor's cost accounting practices in accumulating and reporting contract performance cost data concerning this contract. If any change in cost accounting practices is made for the purposes of any contract or subcontract subject to CAS requirements, the change must be applied prospectively to this contract and the Disclosure Statement must be amended accordingly. If the contract price or cost allowance of this contract is affected by such changes, adjustment shall be made in accordance with subparagraph (a)(4) or (a)(5) of this clause, as appropriate.
- (3) Comply with all CAS, including any modifications and interpretations indicated thereto contained in 48 CFR part 9904 in effect on the date of award of this contract or, if the Contractor has submitted certified cost or pricing data, on the date of final agreement on price as shown on the Contractor's signed certificate of current cost or pricing data. The Contractor shall also comply with any CAS (or modifications to CAS) which hereafter become applicable to a contract or subcontract of the Contractor. Such compliance shall be required prospectively from the date of applicability to such contract or subcontract.
- (4)
 - (i) Agree to an equitable adjustment as provided in the Changes clause of this contract if the contract cost is affected by a change which, pursuant to subparagraph (a)(3) of this clause, the Contractor is required to make to the Contractor's established cost accounting practices.
 - (ii) Negotiate with the Contracting Officer to determine the terms and conditions under which a change may be made to a cost accounting practice, other than a change made under other provisions of subparagraph (a)(4) of this clause; provided that no agreement may be made under this provision that will increase costs paid by the United States.
 - (iii) When the parties agree to a change to a cost accounting practice, other than a change under subdivision (a)(4)(i) of this clause, negotiate an equitable adjustment as provided in the Changes clause of this contract.
- (5) Agree to an adjustment of the contract price or cost allowance, as appropriate, if the Contractor or a subcontractor fails to comply with an applicable Cost Accounting Standard, or to follow any cost accounting practice consistently and such failure results in any increased costs paid by the United States. Such adjustment shall provide for recovery of the increased costs to the United States, together with interest thereon computed at the annual rate established under section 6621(a)(2) of the Internal Revenue Code of 1986 (26 U.S.C. 6621(a)(2)) for such period, from the time the payment by the United States was made to the time the adjustment is effected. In no case shall the Government recover costs greater than the increased cost to the Government, in the aggregate, on the relevant contracts subject to the price adjustment, unless the Contractor made a change in its cost accounting practices of which it was

aware or should have been aware at the time of price negotiations and which it failed to disclose to the Government.

- (b) If the parties fail to agree whether the Contractor or a subcontractor has complied with an applicable CAS in 48 CFR part 9904 or a CAS rule or regulation in 48 CFR part 9903 and as to any cost adjustment demanded by the United States, such failure to agree will constitute a dispute under 41 U.S.C. chapter 71, Contract Disputes.
- (c) The Contractor shall permit any authorized representatives of the Government to examine and make copies of any documents, papers, or records relating to compliance with the requirements of this clause.
- (d) The Contractor shall include in all negotiated subcontracts which the Contractor enters into, the substance of this clause, except paragraph (b), and shall require such inclusion in all other subcontracts, of any tier, including the obligation to comply with all CAS in effect on the subcontractor's award date or if the subcontractor has submitted certified cost or pricing data, on the date of final agreement on price as shown on the subcontractor's signed Certificate of Current Cost or Pricing Data. If the subcontract is awarded to a business unit which pursuant to 48 CFR 9903.201-2 is subject to other types of CAS coverage, the substance of the applicable clause set forth in subsection 30.201-4 of the Federal Acquisition Regulation shall be inserted. This requirement shall apply only to negotiated subcontracts in excess of \$2,000,000, except that the requirement shall not apply to negotiated subcontracts otherwise exempt from the requirement to include a CAS clause as specified in 48 CFR 9903.201-1.

(End of Clause)

**I-15 DISCLOSURE AND CONSISTENCY OF COST ACCOUNTING PRACTICES
(FAR 52.230-3) (OCT 2015) (NASA PROCUREMENT CLASS DEVIATION 18-04,
JUL 2018) (MOD 3)**

- (a) The Contractor, in connection with this contract, shall -
 - (1) Comply with the requirements of 48 CFR 9904.401, Consistency in Estimating, Accumulating, and Reporting Costs; 48 CFR 9904.402, Consistency in Allocating Costs Incurred for the Same Purpose; 48 CFR 9904.405, Accounting for Unallowable Costs; and 48 CFR 9904.406, Cost Accounting Standard—Cost Accounting Period, in effect on the date of award of this contract as indicated in 48 CFR part 9904.
 - (2) (CAS-covered Contracts Only) If it is a business unit of a company required to submit a Disclosure Statement, disclose in writing its cost accounting practices as required by 48 CFR 9903.202-1 through 9903.202-5. If the Contractor has notified the Contracting Officer that the Disclosure Statement contains trade secrets and commercial or financial information which is privileged and confidential, the Disclosure Statement shall be protected and shall not be released outside of the Government.

- (3) (i) Follow consistently the Contractor's cost accounting practices. A change to such practices may be proposed, however, by either the Government or the Contractor, and the Contractor agrees to negotiate with the Contracting Officer the terms and conditions under which a change may be made. After the terms and conditions under which the change is to be made have been agreed to, the change must be applied prospectively to this contract, and the Disclosure Statement, if affected, must be amended accordingly.
- (ii) The Contractor shall, when the parties agree to a change to a cost accounting practice and the Contracting Officer has made the finding required in 48 CFR 9903.201-6(c), that the change is desirable and not detrimental to the interests of the Government, negotiate an equitable adjustment as provided in the Changes clause of this contract. In the absence of the required finding, no agreement may be made under this contract clause that will increase costs paid by the United States.
- (4) Agree to an adjustment of the contract price or cost allowance, as appropriate, if the Contractor or a subcontractor fails to comply with the applicable CAS or to follow any cost accounting practice, and such failure results in any increased costs paid by the United States. Such adjustment shall provide for recovery of the increased costs to the United States together with interest thereon computed at the annual rate established under Section 6621(a)(2) of the Internal Revenue Code of 1986 (26 U.S.C. 6621(a)(2)), from the time the payment by the United States was made to the time the adjustment is effected.
- (b) If the parties fail to agree whether the Contractor has complied with an applicable CAS, rule, or regulation as specified in 48 CFR parts 9903 and 9904 and as to any cost adjustment demanded by the United States, such failure to agree will constitute a dispute under 41 U.S.C. chapter 71, Contract Disputes.
- (c) The Contractor shall permit any authorized representatives of the Government to examine and make copies of any documents, papers, and records relating to compliance with the requirements of this clause.
- (d) The Contractor shall include in all negotiated subcontracts, which the Contractor enters into, the substance of this clause, except paragraph (b), and shall require such inclusion in all other subcontracts of any tier, except that -
 - (1) If the subcontract is awarded to a business unit which pursuant to 48 CFR 9903.201-2 is subject to other types of CAS coverage, the substance of the applicable clause set forth in subsection 30.201-4 of the Federal Acquisition Regulation shall be inserted.
 - (2) This requirement shall apply only to negotiated subcontracts in excess of \$2,000,000.
 - (3) The requirement shall not apply to negotiated subcontracts otherwise exempt from the requirement to include a CAS clause as specified in 48 CFR 9903.201-1.

(End of Clause)

I-16 NFS 1852.239-74, INFORMATION TECHNOLOGY SYSTEM SUPPLY CHAIN RISK ASSESSMENT (NASA PROCUREMENT CLASS DEVIATION 15-03C) (SEP 2018) (MOD 5)

- (a) Definitions, as used in this clause.

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

“Information Technology (IT) System” is defined as any equipment or system that is used in the acquisition, storage, retrieval, manipulation and/or transmission of data or information. This includes computers, ancillary and peripheral equipment, software and firmware.

- (b) NASA HQ OCIO IT Security Division will review the contractor’s supply chain for the risk of cyber-espionage or sabotage before acquiring any high-impact or moderate-impact IT systems. The OCIO will use the security categorization in the National Institute of Standards and Technology’s (NIST) Federal Information Processing Standard Publication 199, “Standards for Security Categorization of Federal Information and Information Systems” to determine whether an IT system is high-impact or moderate-impact.
- (c) The Contractor shall provide the following information for any IT system, or component thereof, to be provided in performance of the contract:
- (1) A brief description of the item(s).
 - (2) The vendor/manufacturer’s company name and address.
 - (3) If known, the manufacturer’s web site, and the Commercial and Government Entity (CAGE) code.
- (d) The Contracting Officer (CO) will provide the information referenced in paragraph (c) of this section to the NASA HQ OCIO IT Security Division, who will assess the risk of cyber-espionage or sabotage and make a determination if the acquisition of the proposed system is in the national interest. NASA shall reject any IT system the NASA HQ OCIO IT Security Division deems to be high impact or moderate impact unless the HQ OCIO determines the acquisition is in the national interest of the United States. NASA reserves the right to make this decision, without providing any detailed explanation to the Contractor. The CO will advise the Contractor when any IT system, or components thereof, to be provided in performance of the contract represents an unacceptable risk to national security and may provide the Contractor with an opportunity to submit an alternative IT system.
- (e) The Contractor shall insert the substance of this clause, including this paragraph (e), in all subcontracts involving the development or delivery of any IT system, or components thereof.

(End of Clause)

[END OF SECTION]

PART III—LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

SECTION J—LIST OF ATTACHMENTS

J-1 LIST OF DOCUMENTS, EXHIBITS, ATTACHMENTS, AND APPENDICES

- (a) The following documents, exhibits, attachments, and appendices are included in the solicitation and resulting Contract. Representations and certifications completed by the Contractor in response to this solicitation are incorporated by reference in the resulting Contract at time of award.

Title	Date	No. of Pages
Attachment A—Listing of All Applicable NASA Policies	June 2018	4
Attachment B—Agreement and Conditions for Evaluation of Proposals		1
Attachment C—Organizational Conflict of Interest Mitigation Plan	July 2017	7
Attachment D—Small Business Subcontracting Plan	April 2018	13
Attachment E—Contract Data Requirements List	June 2018	8
Attachment F—DD Form 254	June 2018	2
Attachment G—Performance Evaluation and Measurement Plan (Approved) (for FY 2019 - Mod 3, effective 10/1/18)	September 2018	22
Performance Evaluation and Measurement Plan (Approved) (for FY 2020 – Mod 4, effective 10/1/19)	September 2019	27
Attachment H—Implementation Plan Template	March 2018	1
Attachment I— Advance Agreement Between NASA and Contractor Regarding Work and Cost Impacts Resulting from the Coronavirus (COVID-19) Situation. The Contractor shall incorporate appropriate portions of Attachment I, suitably modified to identify the parties, into applicable subcontracts. (Mod 6, effective 3/17/20)	April, 2020	5
Appendix 1—NASA and Caltech Understanding Concerning the Jet Propulsion Laboratory		4
Appendix 2—The NASA Management Office Performance Appraisal Process: Performance Evaluation and Measurement Plan/Award Term Plan Preparation Guidance	June 2018	35

(End of Clause)

[END OF SECTION]

ATTACHMENT A

Attachment A provides a list of NASA policy documents applicable to this Contract. The Contractor fulfills the sections of the policy documents listed below that apply to center personnel, except for inherently governmental functions, as defined in [FAR Subpart 7.5](#) and this Contract, consistent with the section in the Contract entitled “Non-applicability of Lower-Tier Documents,” the related anchor language in the Contract (when applicable), and the associated Implementation Plans (when applicable). Notwithstanding the version of these documents in NODIS and in the NASA Standards, the actual versions agreed to by the parties are reflected in CDRL CM-004.

applicable). Notwithstanding the version of these documents in NODIS and in the NASA Standards, the actual versions agreed to by the parties are reflected in CDRL CM-004.

	<u>DIRECTIVES AND STANDARDS</u>	<u>NUMBER OF DIRECTIVES/STANDARDS</u>	<u>TITLE</u>	<u>IP ATTACHMENT</u>	<u>SECTION</u>
STATE	NPD 1600.3	1	Policy on Prevention of and Response to Workplace Violence	N/A	
	NPD 2570.5	9	NASA Electromagnetic Spectrum Management	N/A	
	NPD 8074.1		Management and Utilization of NASA's Space Communication and Navigation Infrastructure	N/A	
	NPD 8610.6		Graphic Markings on Space Transportation Vehicles, U.S. Components of the International Space Station Component Systems, and Payloads	N/A	
	NPD 8610.7		Launch Services Risk Mitigation Policy for NASA-Owned and/or NASA-Sponsored Payloads/Missions	N/A	
	NPD 8610.12		Orbital Space Transportation Services	N/A	
	NPD 8610.23		Launch Vehicle Technical Oversight Policy	N/A	
	NPD 8610.24		Launch Services Program Pre-Launch Readiness Reviews	N/A	
	NPD 8900.4		NASA Use of Global Positioning System Precise Positioning Service	N/A	
OCE)	NPR 2570.1	7	NASA Radio Frequency (RF) Spectrum Management Manual	N/A	
	NPD 7120.4		NASA Engineering and Program/Project Management Policy	OCE IP	
	NPD 7120.6		Knowledge Policy on Programs and Projects		
	NPR 7120.5		NASA Space Flight Program and Project Management Requirements		
	NPR 7120.8		NASA Research and Technology Program and Project Management Requirements		
	NPR 7120.10		Technical Standards for NASA Programs and Projects		
	NPR 7123.1		NASA Systems Engineering Processes and Requirements		
	NPR 7150.2		NASA Software Engineering Requirements		
	NPD 9250.1		Capital Asset Identification and Treatment		
L	NPR 9250.1	4	Property, Plant and Equipment and Operating Materials and Supplies	OCFO Financial Management IP	
	NPR 9501.2		NASA Contractor Financial Management Reporting	OCFO Grants and Cooperative Agreements IP	
	NPR 9680.1		NASA's Grants and Cooperative Agreements Advance Payments		
	NPD 1800.2		NASA Occupational Health Program	OCHMO IP	
ON	NPR 1800.1	2	NASA Occupational Health Program Procedures	TRANSITION PLAN	
	NPD 1382.17	15	NASA Privacy Policy		
	NPR 1382.1		NASA Privacy Procedural Requirements		
	NPD 1440.6		NASA Records Management		
	NPD 2200.1		Management of NASA Scientific and Technical Information		
	NPR 2200.2		Requirements for Documentation, Approval and Dissemination of Scientific and Technical Information		
	NPD 2800.1		Managing Information Technology		
	NPD 2830.1		NASA Enterprise Architecture		

STANDARDS	STANDARDS/DIRECTIVES/	TITLE	IP ATTACHMENT	SECTION
NPR 7120.7		NASA Information Technology and Institutional Infrastructure Program and Project Management Requirements		
NPR 2800.2		Electronic and Information Technology Accessibility		
NPD 2810.1		NASA Information Security Policy		
NPR 2810.1		Security of Information Technology		
NPR 2841.1		Identity, Credential, and Access Management (ICAM)		
N/A		Software License Management	OCIO Software License Management IP (Mod 7)	
N/A		21st Century Integrated Digital Experience Act (IDEA)	OCIO External Websites IP (Mod 7)	
NPR 7500.2		NASA Technology Transfer Requirements	N/A	
NPD 1360.2	4	Initiation and Development of International Cooperation in Space and Aeronautics Programs	N/A	While NPD 1360.2 is not a NASA Mission, it is a NASA practice, procedure, or process described in the NASA Mission Management Plan (NMP) of International Aeronautics Programs. In its terms, the Contract is a NASA Mission. NPD 1360.2 is a NASA Mission. NASA Mission Management Plan (NMP) of International Aeronautics Programs. In its terms, the Contract is a NASA Mission. NPD 1360.2 is a NASA Mission.
NPD 1370.1		Reimbursable Utilization of NASA Facilities by Foreign Entities and Foreign-Sponsored Research	N/A	G-14: The Contractor shall be responsible for the contract requirements of the Contractor's system of processes, training, and documentation.
NPD 2190.1		NASA Export Control Program	N/A	
NPR 2190.1	20	NASA Export Control Program	N/A	
NPD 1460.1		Agency Mail Management Program	N/A	
NPD 8800.14		Policy for Real Estate Management	N/A	
NPD 8810.2		Master Planning for Real Property	N/A	
NPD 8820.2		Design and Construction of Facilities	N/A	
NPD 8831.1		Maintenance and Operations of Institutional and Program Facilities and Related Equipment	N/A	
NPD 4300.1		NASA Personal Property Disposal Policy (Mod 5, effective 10/1/20)	N/A	
NPR 4300.1		NASA Personal Property Disposal Procedural Requirements (Mod 5, effective 10/1/20)	N/A	

STANDARDS	DIRECTIVES/ STANDARDS	TITLE	IP ATTACHMENT	SECTION
NPR 7900.3		Aircraft Operations Management	OSI Aircraft IP	
NPD 8500.1		NASA Environmental Management		
NPR 8510.1		NASA Cultural Resources Management	OSI Environmental IP	
NPR 8530.1		NASA Sustainable Acquisition		
NPR 8553.1		NASA Environmental Management System		
NPR 8570.1		NASA Energy Management Program		
NPR 8580.1		Implementing the National Environmental Policy Act and Executive Order 12114		
NPR 8590.1		Environmental Compliance and Restoration Program		
NPR 8800.15		Real Estate Management Program		
NPR 8810.1		Center Master Planning	N/A	
NPR 8820.2		Facility Project Requirements (FPR)	N/A	
NPR 8831.2		Facilities Maintenance and Operations Management	N/A	
NPD 8020.7		Biological Contamination Control for Outbound and Inbound Planetary Spacecraft	OSMA IP	
NPD 8700.1		NASA Policy for Safety and Mission Success		
NPD 8710.5		Policy for Pressure Vessels and Pressurized Systems		
NPD 8720.1		NASA Reliability and Maintainability (R&M) Program Policy		
NPD 8730.2		NASA Parts Policy		
NPD 8730.5		NASA Quality Assurance Program Policy		
NPR 8000.4		Agency Risk Management Procedural Requirements		
NPR 8020.12		Planetary Protection Provisions for Robotic Extraterrestrial Missions		
NPR 8621.1		NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping		
NPR 8705.2		Human-Rating Requirements for Space Systems		
NPR 8705.4		Risk Classification for NASA Payloads		
NPR 8705.5		Technical Probabilistic Risk Assessment (PRA) Procedures for Safety and Mission Success for NASA Programs and Projects		
NPR 8705.6		Safety and Mission Assurance (SMA) Audits, Reviews, and Assessments		
NPR 8715.3		NASA General Safety Program Requirements		
NPR 8715.5		Range Flight Safety Program		
NPR 8715.6		NASA Procedural Requirements for Limiting Orbital Debris and Evaluating the Meteoroid and Orbital Debris Environments		
NPR 8715.7		Expendable Launch Vehicle (ELV) Payload Safety Program		
NPR 8735.1		Procedures for Exchanging Parts, Materials, Software, and Safety Problem Data Utilizing the Government-Industry Data Exchange Program (GIDEP) and NASA Advisories		
NPR 8735.2		Management of Government Quality Assurance Functions for NASA Contracts		
STD 6008		NASA Fastener Procurement, Receiving Inspection, and Storage Practices for Spaceflight Hardware		
STD 8709.20		Management of Safety and Mission Assurance Technical Authority (SMA TA) Requirements		
STD 8719.7		Facility System Safety Guidebook		
STD 8719.9		Lifting Standard		

	STANDARDS	DIRECTIVES/ STANDARDS	TITLE	IP ATTACHMENT	SECTION
	STD 8719.11	3	Safety Standard for Fire Protection		
	STD 8719.12		Safety Standard for Explosives, Propellants, and Pyrotechnics		
	STD 8719.13		Software Safety Standard		
	STD 8719.14		Process for Limiting Orbital Debris		
	STD 8719.17		NASA Requirements for Ground-Based Pressure Vessels and Pressurized Systems (PVS)		
	STD 8719.24		NASA Expendable Launch Vehicle Payload Safety Requirements (Base + Annex)		
	STD 8719.24-ANNEX		ANNEX TO NASA-STD-8719.24, NASA Expendable Launch Vehicle Payload Safety Requirements: Requirements Table		
	STD 8719.25		Range Flight Safety Requirements		
	STD 8729.1		NASA Reliability and Maintainability (R&M) Standard for Spaceflight and Support		
	STD 8739.1		Workmanship Standard for Polymeric Application on Electronic Assemblies		
	STD 8739.4		Workmanship Standard for Crimping, Interconnecting Cables, Harnesses, and Wiring		
	STD 8739.5		Workmanship Standard for Fiber Optic Terminations, Cable Assemblies, and Installation		
	STD 8739.6		Implementation Requirements for NASA Workmanship Standards		
	STD 8739.8		Software Assurance Standard		
	STD 8739.10		Electrical, Electronic, and Electromechanical (EEE) Parts Assurance Standard		
	STD 8739.12		Metrology & Calibration		
	HDBK 8709.22		Safety and Mission Assurance Acronyms, Abbreviations, and Definitions		
	HDBK 8719.14		Handbook for Limiting Orbital Debris		
E	NPD 1080.1	3	Policy for the Conduct of NASA Research and Technology	N/A	C: Shall apply has delegate
	NPD 8010.3		Notification of Intent to Decommission or Terminate Operating Space Systems and Terminate Missions	N/A	
	NPR 1080.1		Requirements for the Conduct of NASA Research and Technology (R&T)	N/A	

Office of the Chief Engineer

Implementation Plan for the Engineering Technical Authority and the NASA Office of the Chief Engineer Directives

Directive Information

[NPDs and NPRs](#)

- 1) NPD 7120.4, NASA Engineering and Program/Project Management Policy
- 2) NPD 7120.6, Knowledge Policy on Programs and Projects
- 3) NPR 7120.5, NASA Space Flight Program and Project Management Requirements
- 4) NPR 7120.8, Research and Technology Program and Project Management Requirements
- 5) NPR 7120.10, Technical Standards for NASA Programs and Projects
- 6) NPR 7123.1, NASA Systems Engineering Processes and Requirements
- 7) NPR 7150.2, NASA Software Engineering Requirements

[NASA Responsible Office](#)

Office of the Chief Engineer

Engineering Technical Authority Implementation Plan

1. Overview

The NASA Chief Engineer delegates to the Contractor's Laboratory Director the Engineering Technical Authority (ETA) responsibilities of Center Directors defined in NPR 7120.5 and other NASA directives and standards applied to the Contract, subject to the requirements and limitations detailed in the ETA. The Contractor's Laboratory Director may delegate ETA responsibility to a qualified individual within the Contractor's organization with a line of reporting to the Contractor's Laboratory Director that is independent from programmatic authority reporting.

2. Delegations

For NASA directives where NASA has delegated the TA to the Contractor, the Contractor will utilize its processes and procedures to implement the ETA role, including its processes for addressing risks, waivers, cross-cutting issues, deviations, etc.

Pertaining to those NASA directives that TA has not been delegated to the Contractor, the Contractor will follow the requirements in the Contract in accordance with this Implementation Plan.

3. Contractor's Internal Procedures

The Contractor's local command media documents policies, processes, best practices and procedures describing how the Contractor implements its processes and requirements, including requirements that are flowed through the Prime Contract. The Contractor updates its internal ETA processes, procedures, and documentation to reflect new/updated NASA directives that are accepted into the Contract.

4. Flowdown and Implementation Approach of ETA Responsibilities

The Contractor implements the ETA in accordance with NASA's hierarchical authority and decision-making delegations per the requirements in the NASA directives applicable to the Contract.

The following individuals are responsible for implementing ETA for the Contractor. They are organizationally independent of a program or project.

- Contractor's Laboratory Director: The Technical Authority at the center level and has overall responsibility for ETA as well as implementation of the ETA function. The Contractor's Laboratory Director delegates ETA responsibility and its implementation to the Contractor's Director For Engineering and Science.
- Contractor's Director For Engineering and Science: The Contractor's Director For Engineering and Science delegates ETA responsibility and its implementation to the Contractor's Chief Engineer.
- Contractor's Chief Engineer: Responsible both for the substance and implementation of the Contractor's engineering design processes, specifications, rules, best practices, etc., necessary to fulfill mission performance requirements for programs, projects, and/or major systems implemented by the Contractor. Resides organizationally in the Engineering and Science Directorate (ESD) reporting to the Director For Engineering and Science. The Contractor's Chief Engineer is the primary interface to the NASA Chief Engineer for the ETA and acts as a liaison to NASA's Office of the Chief Engineer on ETA issues.
- Project ETA: Project technical leader responsible for applying, approving, and flowing down Contractor and agency-level engineering requirements to projects. Project ETA ensures deviations and waivers are technically justified, submitted and approved prior to implementation, and certifies that the project meets the requirements. At the project level, the ETA is typically performed by the Project System Engineer (PSE).

Project ETA assignments are usually made at the start of phase B and prior to the System Requirements Review. Individuals specifically designated as ETA (e.g., PSEs, Subject Matter Experts (SMEs)) are organizationally independent of the project and are typically in ESD.

ETA decisions are binding on the specific program/project to which they apply. Appeals of ETA decisions may be made by the program/project. Appeals are reviewed for approval or denial through parallel independent chains, i.e., the program/project, the engineering and/or the line management chains of command.

The project level ETA is normally vested in the PSE, but depending on the mission or instrument, the Contractor's Chief Engineer or other delegate may also serve as ETA. This usually occurs when the implementation requires a lesser level of engagement than a full-time ETA, mainly on small projects such as instruments and/or technology missions. ETA for all missions in operations will normally be with the Contractor's Chief Engineer. The list of project ETAs is maintained by the Contractor's Office of the Chief Engineer.

The ETA maintains technical responsibility including engineering requirements, deviations, waivers, and risk for a project. Engineering requirements are distinct from mission performance requirements. Performance requirements are determined by the Mission Directorate, Program, Project and/or the Principal Investigator and are within the purview of the Project manager to meet. The project ETAs have responsibilities for applying/approving and flowing down Contractor and agency-level engineering

requirements. Project-level ETA implementers maintain broad awareness of issues and potential problems that may be pertinent to ETA. ETAs review and concur on system-level reliability and safety products including system-level Failure Mode Effects and Criticality Analysis (FMECAs), Probabilistic Reliability Analysis (PRAs), hazard reports, and risk analyses.

The ESD appoints the PSEs as the designated Project ETA, with the concurrence of the Program/Project Manager and the Contractor's Chief Engineer. PSEs are ultimately responsible for making technical decisions for their project through a process that carefully considers all stakeholders' perspectives and inputs. The PSE as ETA is responsible for assuring waivers are technically sound, properly dispositioned, and for certifying that the system has met the engineering requirements. ETAs sign-off on Category A waivers where engineering requirements are being waived. The ETA also reviews anomaly reports and sign-offs on significant Problem Failure Reports (PFRs), red flag PFRs and criticality I & 2 Incidents, Surprise, Anomalies (ISAs).

The ETA may call upon SMEs to support technical analyses. The SME supports application of specifications and standards in their discipline and approves any tailoring, deviations or waivers to those standards and specifications when required. SMEs must maintain broad awareness of issues and potential problems that may be pertinent to their responsibilities. SMEs may be Section Managers, Group Supervisors, Principals, specialist engineers and/or process owners. SMEs organizationally reside in ESD.

The ETA will work with SMEs, project teams and engineering line management to support technical analyses and ensure that the appropriate engineering standards, processes and procedures are identified and applied to the project and their sub-contractors, as appropriate.

In the performance of this work, the Contractor shall, on a best-efforts basis:

- a. Regularly reinforce the tenets of the ETA.
- b. Ensure new ETAs are trained in their responsibilities.
- c. Advise and support ETAs on resolving technical issues, including identification of SME support as required.
- d. Address technical issues or problems cross-cutting multiple projects or NASA missions/centers.
- e. Organize tiger teams and risk assessment teams for assessing risks or resolving technical issues when required due to wider engineering impact or issues of dissent.
- f. Conduct engineering analyses to support technical decisions and/or waiver approvals.
- g. Provide checks and balances on the execution of technical work conducted in support of mission-related programs and projects.^[1]_{SEP}
- h. Prepare weekly and year-end reports as required by the NASA Office of the Chief Engineer.
- i. Projects will provide NASA OCE the information on both open and closed waivers that could threaten mission Level 1 requirements. Projects will disclose risks to the NASA OCE that could impact mission success. At a minimum, the Contractor will hold quarterly meetings or Quarterly Status Reviews (QSR) with the NASA OCE to discuss top mission risks, open waivers, and anomalies. The Contractor will hold more frequent meetings with the Project, ETA and NASA OCE as required to inform the NASA Chief Engineer or to address issues and concerns that warrant NASA OCE approval.

ETA functions described above shall be funded through the Contract via the ETA Task Order. Annually, the Contractor will work with the NASA OCE to develop a mutually agreeable plan to fund the ETA functions.

5. Implementation Approach for the NASA OCE-Directed Tasks

At the direction of the NASA OCE, the Contractor's Chief Engineer office may provide support tasks within the scope of the Contract at the direction of the NASA OCE and with available funding. These may include tasks, that: 1) provide benefits for future engineering advances for NASA; 2) update engineering processes and documentation such as the NASA Handbook; and 3) provide engineering analysis, technical support, technical assessments, and special support. NASA OCE-directed tasks will be funded via a separate task order.

NASA Office of the Chief Engineer Directives Implementation Plan

Declaration and Exceptions to the Requirements of the Directives

1) Declaration of intent

- a) Consistent with the TA language and the Article in the Contract entitled "Applicability of Lower-Tier Documents," the Contractor shall fulfill for program and project task orders all portions of the NPDs and NPRs listed in the "Directive Information" section above, which apply to Contractor personnel, excluding any inherently governmental functions, and except as specified in the paragraph 2) "Description of the Contractor's Exceptions, Rationale and Risk Assessment for Not Complying" immediately below.

2) Description of the Contractor's exceptions, rationale, and risk assessment for not complying

- a) Regarding NPD 7120.4:
 - i) The Contractor meets the intent of this NPD.
- b) Regarding NPR 7120.5:
 - i) The Contractor meets the intent of this NPR.
 - ii) For clarification purposes, it is understood that Projects will complete a Compliance Matrix for the requirements and lifecycle gate products listed in this NPR and attach it to their Formulation Agreement and Project Plan when these documents are submitted for NASA approval.
- c) Regarding NPD 7120.6:
 - i) The Contractor meets the intent of this NPD.
- d) Regarding NPR 7120.8:
 - i) The Contractor meets the intent of this NPR.
 - ii) Contractor will work in accordance with the NASA property capitalization thresholds from NPR 9250.1 that have been incorporated into the Contract.
 - (1) Rationale: The NASA property capitalization thresholds referenced in NPR 7120.8 have not been updated to reflect the latest version of NPR 9250.1.
 - (2) Risk Assessment: No risk to NASA.
- e) Regarding NPR 7120.10:
 - i) The Contractor meets the intent of this NPR.

- f) Regarding NPR 7123.1:
 - i) The Contractor meets the intent of this NPR.
- g) Regarding NPR 7150.2:
 - i) The Contractor meets the intent of this NPR with respect to software created or acquired as Class A, B, and C as defined in the Software Classifications section of this NPR; and to Class D software to be used in space, or to support operations of space assets.
 - ii) Within 6 months from the release of NPR 7150.2C, the Contractor will provide NASA OCE with a written assessment regarding future compliance with Class D software not listed in i) and the other software covered by the NPR 7150.2 scope,. The written assessment shall include an assessment of the NPR 7150.2 requirements against the existing Contractor requirements for the software not covered in i), a resource impact, the timeline for compliance with the intent of the requirements not covered by existing Contractor requirements, and a risk assessment for requirements not covered by existing JPL requirements. Upon receipt of the written assessment, NASA in conjunction with the NMO staff and the Contractor will make a determination whether the Contractor will, with respect to Class D software not listed in i) and other software covered by the NPR 7150.2 scope, (1) implement the NPR, (2) not implement the NPR, or (3) implement certain sections of the NPR.

Surveillance Performance Indicators

Performance will be observed through the Contractor's implementation of the NASA Chief Engineer approved Contractor Office of the Chief Engineer Implementation Plan (IP) and associated interaction with NASA. This will be evidenced by the Contractor performing the activities in the IP, producing associated products, conducting reviews, performing assessments, reporting, and other aspects of the IP.

Office of the Chief Financial Officer

Implementation Plan

Directive Information

NPRs and NPD

- 1) NPR 9501.2, NASA Contractor Financial Management Reporting
- 2) NPD 9250.1, Capital Asset Identification and Treatment
- 3) NPR 9250.1, Property, Plant, and Equipment and Operating Materials and Supplies

NASA Responsible Office

Office of the Chief Financial Officer

Declaration and Exceptions to Requirements

1) Declaration of intent

- a) Consistent with the Article in the Contract entitled “Applicability of Lower-Tier Documents” and except as provided below, the Contractor fulfills the sections of these NPRs and NPD that apply to center personnel, except for inherently governmental functions, as defined in FAR Subpart 7.5 and this Contract.

2) Description of the Contractor’s exceptions, rationale, and risk assessment for not complying

Background: The NASA Contractor Financial Management Reporting function requires separate roles and processes for the Contractor personnel, NMO and RFO that have been clarified in the exceptions below.

- a) Regarding NPR 9501.2, NASA Contractor Financial Management Reporting:
 - i) Exception #1: The Contractor operates under its own business system, which is Oracle, versus NASA’s SAP system. The Contractor shall segregate, account, summarize, and report the accrued costs using its own system.
 - (1) Rationale: The Contractor’s cost collection system is setup around the Contractor’s financial policies, procedures, and systems to ensure accuracy and completeness of reporting provided to NASA.
 - (2) Risk Assessment: No risk to NASA as the Contractor has an approved and audited accounting system.
 - ii) Exception #2: In lieu of the unique NASA WBS requirement, the Contractor will provide a monthly Capital Asset Report (CAR), which covers items that meet the definition of capital assets under NPR 9250.1.
 - (1) Rationale: Cost of acquiring capitalized PP&E are tracked through projects/task numbers and reported on the CAR. It was necessary for the contractor to develop the monthly CAR report at the WBS level, as its system is not compatible with NASA’s SAP system.
 - (2) Risk Assessment: No risk to NASA as the CAR provides the needed reporting information to NASA.

- b) Regarding NPD 9250.1 – Capital Asset Identification and Treatment
 - i) Exception #1: This NPD requires unique NASA WBS reporting of capital assets. As stated above in (a) (ii), the Contractor will provide a monthly CAR that covers defined capital assets.
 - (1) Rationale: Same as in (a) (ii) above.
 - (2) Risk Assessment: Same as in (a) (ii) above.
- c) Regarding NPR 9250.1, Property, Plan, and Equipment and Operating Materials and Supplies
 - i) Exception #1: The Capitalization Determination Form (CDF) NF 1739 will be submitted by the Contractor subject to these understandings:
 - (a) References to including the signature box for the Center Property Accountant and Property Accountant on the NF 1739 are not applicable to the Contractor. If the Contractor requires assistance completing the CDF NF 1739, then the Contractor will refer its questions to the Regional Finance Office (RFO) Property Accountant.
 - (b) References on the CDF NF 1739 to the Center Office of the Chief Financial Officer (CFO) are understood to refer to the RFO Property Accountant.
 - (c) References to the project WBS, unique WBS, and Capital WBS Element(s) are not applicable to the Contractor, with the exception of Construction of Facilities (CoF) projects.
 - (d) References to submittal of the CDF NF 1739 to Center OCFO is understood to mean NASA RFO.
 - (e) References to Center OCFO providing final capitalization determinations and maintaining CDF NF 1739 is understood to mean NASA RFO.
 - (1) Rationale: Clarification of roles and Contractor's project/task tracking methodology in the Oracle software system.
 - (2) Risk Assessment: No risk to NASA as the Contractor will provide the NASA form 1739 with the noted clarifications above.
 - ii) Exception #2: Assets identified as capital on CDF NASA Form 1739 will be captured on the monthly CAR, which covers items that meet the definition of capital assets under NPR 9250.1. Items and modifications not meeting the criteria will be identified as non-capital on the CDF NF 1739.
 - (1) Rationale: Same as in (a) (ii) above.
 - (2) Risk Assessment: Same as in (a) (ii) above.
 - iii) Exception #3: The Contractor tracks CoF work by project and task number, not by Asset Under Construction (AUC). WIP (PP&E under construction), including CoF type work, shall be reported in the monthly CHATS and annual NF1018 report.
 - (1) Rationale: New NASA Task Order nomenclature does not allow the Contractor to identify CoF work.
 - (2) Risk Assessment: No risk to NASA as the Contractor is meeting the intent of the policy and using NASAs forms and systems.
 - iv) Exception #4: References to Center Procurement Officers supporting solicitations, contracts, and contractors is understood to mean the Contractor's Acquisition Division, subcontracts, and subcontractors.
 - (1) Rationale: Clarification of roles and terminology.
 - (2) Risk Assessment: No risk to NASA.
 - v) Exception #5: The approval requirements for the purchase or fabrication of property by a subcontractor will be in accordance with the subcontract clause in the prime contract.

- (1) Rationale: The prime contract contains pre-negotiated subcontract approval thresholds.
- (2) Risk Assessment: No risk to NASA as approval thresholds have been agreed with the Contractor.
- vi) Exception #6: In regards to subcontract approvals to purchase or fabricate PP&E, the Center DCFO is the designated NMO official.
 - (1) Rationale: Clarification of roles.
 - (2) Risk Assessment: No risk to NASA.
- vii) Exception #7: Center Real Property Accountable Officer (RPAO) and Center Supply and Equipment Management Officer are the Contractor's Real Property Manager and Contractor's Supply and Equipment Manager.
 - (1) Rationale: Clarification of roles.
 - (2) Risk Assessment: No risk to NASA.
- viii) Exception #8: The Contractor does not record depreciation, and will record the PP&E at the net book value as specified and will report on a monthly basis in CHATS.
 - (1) Rationale: Contractor does not record depreciation because NASA owns the PP&E. In addition, the Contractor does not calculate fair market value because that is tied to depreciation.
 - (2) Risk Assessment: No risk to NASA.
- ix) Exception #9: References to Center Office of Chief Counsel refer to NMO's Office of Chief Counsel.
 - (1) Rationale: Clarification of roles performed.
 - (2) Risk Assessment: No risk to NASA.

Surveillance Performance Indicators

- a) NASA Form 1739, Capitalization Determination Form (CDF): As needed and as a monthly attachment to CHATS.
- b) Capital Assets Report (CAR): Monthly.
- c) NASA Property in the Custody of Contractors NASA Form 1018 Report: Annual.
- d) Contractor Financial Management Report, NF 533M and NF 533Q: Monthly/Quarterly.
- e) Contractor Held Asset Tracking System (CHATS) Report: Monthly.

Office of the Chief Financial Officer

Implementation Plan

Directive Information

NPR

NPR 9680.1, NASA's Management of Grants and Cooperative Agreements

NASA Responsible Office

Office of the Chief Financial Officer

Declaration and Exceptions to Requirements

1) Declaration of intent

- a) Consistent with the Article in the Contract entitled "Applicability of Lower-Tier Documents" and except as provided below, the Contractor fulfills the sections of NPR 9680.1 that apply to center personnel, except for inherently governmental functions, as defined in FAR Subpart 7.5 and this Contract. It is the intent of the Contractor to use our established policies and procedures in support of the Letter of Credit process.

2) Description of the Contractor's exceptions, rationale, and risk assessment for not complying

- a) Regarding NPR 9680.1 NASA's Management of Grants and Cooperative Agreements
 - i) Exception #1: The Contractor does not meet the criteria of an organization that would be subject to termination or suspension of advance payments.
 - (1) Rationale: The Contractor has not shown any of the noted risks and no failures in compliance in this area. Furthermore, the Contractor is a nonprofit with no working capital. The Contractor has a special relationship with NASA as its FFRDC. The Contractor has an approved financial system with rigorous financial controls. The Contractor is audited annually by an external audit agency.
 - (2) Risk Assessment: The exception creates no/low risk to NASA for the reasons stated above in the rationale. Furthermore, the Contractor is continuing with the approved process from the prior version of the NPR that was incorporated into this version of the NPR. There is a high risk to NASA if advance payments to the Contractor are terminated or suspended, as the Contractor would stop all work for NASA.

Office of the Chief Health & Medical Officer

Implementation Plan

Directive Information

NPR and NPD

- 1) NPR 1800.1 NASA Occupational Health Program Procedure
- 2) NPD 1800.2 NASA Occupational Health Program

NASA Responsible Office

Office of the Chief Health & Medical Officer

Declaration and Exceptions to Requirements

1) Declaration of intent

- a) Consistent with the Section in the Contract entitled “Applicability of Lower-Tier Documents” and with consideration to the Contractor’s roles, activities, and practices as described below, this implementation plan is deemed to satisfy the Contractor’s requirements to manage the occupational health program at the Jet Propulsion Laboratory (JPL) consistent with NPR 1800.1 and NPD 1800.2. The Contractor is explicitly excepted from performing any inherently governmental functions, as defined in FAR Subpart 7.5 and this Contract, in connection with carrying out the activities covered under this implementation plan.
- b) The Contractor’s Occupational Safety Program Office, the Contractor’s Systems Safety Program Office, and the Contractor’s Environmental Affairs Program Office establish and lead programs related to occupational safety and health, systems safety and environmental compliance, respectively, and are tasked with appropriately managing risks and enhancing the probability of mission safety and success. The Contractor’s Human Resources organization establishes and leads programs related to occupational medicine, primary prevention and health promotion and an employee assistance program. Each office has office-specific policies detailed in the Contractor’s procedural documentation that respond to applicable Federal, State and local laws and regulations. The Contractor may subcontract some or all of the performance of these requirements to qualified suppliers who will be responsible for carrying out specified activities per the subcontracts issued by the Contractor.
- c) This implementation plan applies to Contractor employees assigned to work at the government-owned facilities provided to Contractor for use in performance of the Contract.

2) Description of the Contractor’s Occupational Health Program regarding NPR 1800.1

- a) The Contractor shall provide occupational health services for the Contractor employees assigned to JPL of a scope that includes,
 - Treatment of work-related injuries and illnesses;
 - Medical examinations as specified in California Occupational Safety and Health Administration (Cal/OSHA) standards;

- Other health examinations in accordance with Contractor's established policies;
 - An employee assistance program for counseling regarding personal, work-related, mental health, and alcohol or substance dependency problems; and
 - Emergency medical assistance.
- b) The Contractor will ensure that its operating policies and procedures with respect to an occupational health program are consistent with the overall intent of the NPR and NPD as detailed herein, but are adapted for the unique needs of the Contractor.
- c) The Contractor's policies and procedures will comply with applicable requirements of Cal/OSHA, American National Standards Institute and California Department of Public Health, Radiologic Health Branch. In the absence of a regulatory standard, the Contractor may use National Institute for Occupational Safety & Health Criteria Documents, or established best practices.
- d) In accordance with the Contract, all medical records (both hard copy and electronic records), to the extent the Contractor shall have control of such records, shall remain the property of the Contractor and will be maintained in accordance with all applicable Federal, State and local laws.

3) Description of the Contractor's Practices

a) Regarding NPR 1800.1

I. Chapter 1. Introduction

- (1) The Contractor fulfills the requirements to provide access to professionally qualified persons with discipline-specific professional licensures and certifications via Subcontract for medical services. The Contractor will provide access to the Subcontractor by the Agency for the purposes of audit, evaluation, and consultation as requested and if appropriate as determined by the Contractor in consultation with the Government.

II. Chapter 2. Occupational Medicine

(1) Occupational Medicine, General

- (a) Occupational Health (OH) Services for Contractor employees assigned to JPL are fully outsourced to a qualified medical service provider who is required to meet applicable Federal and State laws and regulations.
- (b) The Contractor's Human Resources organization, Occupational Safety Program Office, the Contractor's Systems Safety Program Office and the Contractor's Environmental Affairs Program Office establish requirements and policies, and oversee and act as the overall authority for topics, issues, and incidences related to OH services. The Contractor's medical service providers' general scope of work is to provide OH services and act in an advisory role to the Contractor as requested.

(2) Medical Quality Assurance

- (a) The Contractor's outsourced medical service provider is responsible for establishing and maintaining compliance with medical QA consistent with their accrediting body.
- (3) Disease and Primary Injury Prevention
 - (a) The State of California regulations (CCR Title 8, §3203) require the Contractor to establish an effective Injury and Illness Prevention Program (IIPP) to protect the safety and health of employees while they perform their work tasks. The established Contractor IIPP meets the intent of this NASA requirement.
- (4) Diagnosis and Treatment of Occupational Illness or Injury
 - (a) The Contractor employees are to follow the established IIPP which provides guidance on requirements, responsibilities, process descriptions, communication approaches and training on subjects related to occupational illness or injury prevention.
 - (b) The Contractor employees are to report to the Contractor's OH medical service provider upon any injury or illness that are or might be work-related. The Contractor's employees receive training through the Contractor's IIPP to immediately report to their supervisor's work-related injuries or illnesses.
 - (c) The Contractor's OSPO is the designated office for reporting occupational injuries and illnesses to NASA and Cal/OSHA.
- (5) Medical Support to Emergency Preparedness Planning
 - (a) The Contractor has an established Emergency Operations Plan (EOP) developed to identify planned preparedness, response, and recovery efforts to a major emergency or disaster that disrupts or affects any mission, personnel, operations or facilities.
 - (b) The EOP is prepared by the Contractor's Emergency and Continuity Management under the Protective Services Division (PSD).
- (6) Pandemic Planning
 - (a) The Contractor has developed a Pandemic Plan in the established EOP to address all issues of this threat.
- (7) Physical Examinations
 - (a) Physical Examinations required of Contractor employees assigned to JPL are administered at the Contractor's OH medical service provider. The Contractor will provide historical medical records of current Contractor employees assigned to JPL to Contractor's OH medical service provider. Also, Contractor will provide Appendix C of NPR 1800.1, as reference material, to Contractor's OH medical service provider.
- (8) Emergency Medical Services
 - (a) The Contractor has an Automated External Defibrillator (AED) program that provides placement of AED units at strategic locations around the laboratory which are accessible to trained AED users.
 - (b) The Contractor maintains on-lab Emergency Medical Technicians (EMT)-Basic Level services. In the event of a medical emergency, Contractor employees are to call 9-1-1 for first responder treatment and to be transported to an emergency medical facility.

- (9) Automated External Defibrillator (AED) Program
 - (a) The Contractor has an established AED program that meets State and local requirements. The AED program provides for the placement of AED units at strategic locations around the lab which are accessible to trained AED users. The AED program also establishes training requirements, monitoring and maintenance of AEDs, quality control, recordkeeping and oversight of the program.
 - (b) The Contractor's AED program is reviewed annually by the outsourced medical service provider.
- (10) Bloodborne Pathogens
 - (a) The Contractor's Bloodborne Pathogens Exposure Control Plan (ECP) is established in accordance with Cal-OSHA standard 8 CCR 5139.
 - (b) The Contractor's ECP ensures compliance of program administration, determination of exposure, implementation of various methods of exposure control, a Hepatitis-B vaccination program, post-exposure management, communication of hazards and training, and record keeping.
 - (c) The Contractor's Occupational Safety Program Office (OSPO) and the Bloodborne Pathogen Program Manager are responsible for implementation of the ECP. OSPO will maintain, review, and update the ECP at least annually, and whenever necessary to include new or modified tasks and procedures.
- (11) Infection Control
 - (a) An infection control plan is maintained by the Contractor's OH medical service provider.
- (12) Medical Record Management
 - (a) The OH medical service provider will comply with all applicable Federal, State and local laws for maintaining medical records.
- (13) Shift Work and Balancing Work-Rest Cycles
 - (a) The Contractor has a Human Factors Management Plan (HFMP) developed to identify requirements including Policies regarding work-rest cycles, implementation of work-rest cycles, maximum work limits, shift schedules as required for routine and extended or emergency work scenarios, and mitigation in preventing fatigue and stress.
 - (b) The Contractor's HFMP addresses responsibilities Manager/Supervisors, Employees, Line Management, Human Resources, Systems Safety Office (SSO) and Dining Services.
 - (c) Maximum Work Times Table is in line with NASA requirements.
 - (d) The HFMP is prepared by the Contractor's HR Office and the Contractor's Management.
- (14) International Travel
 - (a) The Contractor shall meet the intent of the NASA NPR through their internal procedures (which capture policies, processes, best practices and procedures).

III. Chapter 3. Primary Prevention and Health Promotion

- (1) The Contractor maintains a health and wellness program that promotes a healthful work environment of its workforce.
 - (a) Fitness Centers: As part of the Contractor's health and wellness program, fitness centers are available on site and maintained by Cal/OSHA standards.

- (b) Dietary: Healthful food options are provided at the on-site cafeterias and specialty menus are made available upon request to encourage both weight management and healthfulness.
- (c) The Contractor will provide a health and wellness program that meets the intent of the NPR.

IV. Chapter 4. Environmental Health

(1) Occupational Exposure Limits (OELs)

- (a) The Contractor administers occupational exposure monitoring anytime anticipated exposures may exceed Cal/OSHA Permissible Exposure Limits (PELs), Threshold Limit Values (TLV) issued by the American Conference of Governmental Industrial Hygienists (ACGIH) or specific NASA Health Standards.
- (b) These requirements are the responsibility of the OSPO when conducting exposure assessments to anticipate, recognize, evaluate, and control hazards so Contractor employees' health is not adversely affected. This addresses personal or work area exposure monitoring and analysis of chemical, physical, and biological agents.

(2) Occupational Exposure Assessment and Management

- (a) The Contractor has an established Occupational Safety Program Office (OSPO)/Occupational Health Program (OHS) Medical Surveillance Program (MSP) to assess whether occupational exposure monitoring is needed.

(3) Sampling, Analytical Methods, and Equipment Calibration

- (a) The Contractor uses recognized sampling and analytical methods developed by OSHA and NIOSH and is used for exposure monitoring.
- (b) Results will be maintained in accordance with 8 CCR 3204 and other regulatory requirements, and in keeping with the Contractor's recordkeeping requirements.

(4) Reproductive and Development Health

- (a) The Contractor Occupational Safety Program Office (OSPO) provides employees with a safe and healthful work environment through the Contractor's current policies and procedure, which include minimizing exposure to potential hazards and ensuring that employees are informed of known hazards in their work environments.

(5) Nanotoxicology

- (a) Policies and procedures related to Nanomaterial Safety and Health are established by the Contractor's OSPO.

(6) Hearing Conservation

- (a) The Contractor has a Hearing Conservation program that applies to Contractor employees who work with or around equipment and/or operations that produce hazardous noise. The Contractor's Hearing Conservation Program is designed to protect employees from environmental noise levels at or above 85 dB A-weighted (dBA), or where the environmental impulse noise level is at or above 140 dB peak C-weighted (dBC) or linear, regardless of duration of exposure or number of impulses, and complies with applicable Federal, State, and Local laws. Employees that are likely to receive exposures that exceed the action levels listed in NPR 1800.1 will be evaluated for inclusion in the Contractor's Hearing Conservation Program.

- (b) The Contractor's Hearing Conservation Program addresses the below:
 - (i) Hearing conservation requirements,
 - (ii) Responsibilities of supervisors/management, employees, Occupational Health Services (OHS) and the Contractor's Facilities division, and
 - (iii) Records.
 - (c) Policies and procedures related to Hearing Conservation are established by the Contractor's OSPO.
- (7) Ergonomics
 - (a) The Contractor has an ergonomic program that applies to Contractor employees assigned to JPL involved in an ergonomic evaluation. Ergonomic evaluations shall be performed by OSPO trained ergonomic evaluators or OSPO staff.
 - (b) The Contractor's ergonomic program addresses the below:
 - (i) Office and industrial ergonomic evaluations
 - (ii) Reporting and responding to cumulative trauma disorders
 - (iii) Ergonomic equipment
 - (iv) Minimum Ergonomic Chair Specifications
 - (v) Training
 - (vi) Guidelines for lifting
 - (c) Policies and procedures related to ergonomics are established by the Contractor's OSPO.
- (8) Indoor Air Quality (IAQ)
 - (a) The Contractor has implemented an indoor air quality program that addresses the below:
 - (i) Responsibilities of employees, supervisors, facilities maintenance/construction, and occupational health services
 - (ii) Investigating indoor air quality concerns
 - (iii) Evaluating the degree of hazard associated with an IAQ concern
 - (b) Policies and procedures related to indoor air quality are established by the Contractor's OSPO.
- (9) Food Safety
 - (a) Regulating food safety
 - (i) The Contractor's methodology is comparable to the Hazard Analysis Critical Control Point (HACCP) methodology as a means to regulate food and safety with internal monthly inspections, quarterly QSI's conducted by Contractors outsourced Dining Service provider GM and the Contractor's Contract Technical Manager (CTM), bi-annual 3rd party audits and quarterly Los Angeles County Health Inspections.
 - (ii) The Contractor's dining services are audited or inspected multiple times per year. All dining service managers, supervisors, and CTM are ServSafe certified.
 - (iii) Dining services employees are food-handler certified annually.
 - (b) Food Code (FDA) Requirements
 - (i) The Contractor's dining services are required by the State of California to follow the latest version of the California Retail Food Code Law (CRFC). The Los Angeles County Public Health Department inspects the dining services quarterly, using the CRFC as a basis of the inspection.
- (10) Health Physics

- (a) The Contractor has implemented a health physics program that protects JPL employees, subcontractors, members of the public, and the environment from hazardous radiation (ionizing, non-ionizing, and lasers).
- (b) Regulations – The Contractor follows the requirements of the California Code of Regulations, Titles 8 and 17, and the applicable sections of the Code of Federal Regulations, Titles 10, 21 and 49.
- (c) Additionally, the Contractor recognizes the guidance of the American National Standards Institute (ANSI), the Institute of Electrical and Electronics Engineers (IEEE), American Conference of Governmental Industrial Hygienists (ACGIH), and SAE International, and follows the most current guidance, where appropriate.

V. Chapter 5. Employee Assistance Program (EAP)

- (1) Employees and their immediate families are provided assistance with confidential, short-term psychological assessment and referral, and short-term resolution of issues related to work or family life that affect employee health and well-being, safety of the employee and co-workers, job performance, attendance, and productivity. Employee assistance is confidential and is provided by a third-party service provider via web portal, phone and many other medium. The Contractor has established a long-term relationship with a highly regarded and qualified subcontracted supplier.

VI. Chapter 6. Workers' Compensation Program

- (1) The Contractor administers a workers' compensation program that complies with applicable State law.

VII. Chapter 7. Occupational Health Program Review Process

- (1) Through the Office of Management Systems, chartered with consistent and regular evaluation, surveillance, internal audit, and strategic planning of all laboratory processes, the Contractor ensures that adequate programs are implemented to protect and promote workforce health, improve personnel capabilities and abilities, and ensure maintenance of a safe and healthy work environment.

(b) Regarding NPD 1800.2

The specific Chief Health and Medical Officer (CHMO) responsibilities and measurement verifications listed in this policy meet the intent of the overall policy to promote and maintain the physical and mental wellbeing of its employees. Each of the environmental, health and safety program management offices have office-specific policies detailed, which may be provided upon NASA request.

(Mod 7)

Office of the Chief Information Officer

Information Security Implementation Plan

Directive Information

NPRs and NPDs

1. NPR 2810, Security of Information Technology
2. NPD 2810, NASA Information Security Policy
3. Applicable cybersecurity requirements pursuant to Prime Contract 80NMO18D0004 Sections I-7 and H-43. The Contractor considers Cybersecurity requirements identified by the link in I-7 to be lower-tiered documents.

NFS

1. 1852.239-74 Information Technology System Supply Chain Risk Assessment (NASA Procurement Class Deviation (15-03C)(SEP 2018)

NASA Responsible Office

Office of the Chief Information Officer

Declaration

Consistent with the Article in the Contract entitled “Non-Applicability of Lower-Tier Documents” and except as provided below, the Contractor fulfills the sections of the documents listed above that apply to the Contractor personnel, except for inherently governmental functions, as defined in FAR Subpart 7.5 and this Contract.

Scope

The Contractor will protect all Contractor and NASA information and information systems, both classified and unclassified, as defined in federal and NASA requirements. If the Contractor is unable to meet those requirements for a particular system, a Risk Based Decision (RBD) will be submitted in RISCS for Authorizing Official (AO) decision.

All information systems containing NASA data will be entered into RISCS. For the purpose of this Plan, NASA data is any data (as defined in the FAR Rights in Data clause of the Prime Contract) or the content of Government records, as defined in clause H-16, that is processed, managed, accessed or stored on an IT system(s) in the performance of the Prime Contract. Until NASA grants an Authority to Operate (ATO) for a System Security Plan, the use of data in RISCS will be limited to support the ATO process for the corresponding Plan. After the ATO is granted, the approved Plan’s RISCS data may be used for other purposes. For new requirements to NASA’s required Authority to Operate policy and processes, parties agree to follow the process

outlined in section G-13 (c) of Prime Contract 80NM0018D0004, entitled New or Updated Government Policies.

This plan is organized into chapters, each of which addresses new cybersecurity components which are not captured by responding to required controls in NASA and federal policy and requirements. Each chapter starts with a high-level summary of the requirements and includes a description of the practices that the Contractor employs to meet the specified requirement. The description of current practices is followed by the Contractor assessment of the degree to which the Contractor meets the requirements as well as gaps. The Contractor will discuss mitigating steps with the responsible Authorizing Official for requested approval. NASA will conduct audits to validate the contract requirements are met.

1.0 Assessment & Authorization

The Contractor understands that NASA's Assessment and Authorization (A&A) process is the Agency's implementation of the National Institute of Standards and Technology (NIST) Risk Management Framework (RMF), and that NASA adheres to the processes defined by the NIST RMF.

The Contractor and NASA mutually agree that the process and supporting technology for the A&A process are open to streamlining, with the ultimate goal of having a single point for compliance and related security assessments that streamlines data ingestion, supports robust analytics, and is integrated into the flight project life-cycle where applicable.

The Contractor has a long-term goal of adopting and streamlining the full A&A process, which will require a change management strategy. A separate plan and schedule will need to be drafted in the future to meet the full A&A process for all plans. The Contractor will also have resource needs in order to support and maintain a full A&A process.

1.1 Adoption of the A&A Process

In order to support NASA's understanding of risk posture, the Contractor will adopt the A&A process, and begin the migration of existing plans and introduction of new plans into the NASA RISCS system.

The Contractor has been following the Certification and Accreditation (C&A) process which does not align to the A&A process currently being utilized by NASA. In support of the transition to the NASA A&A process, the Contractor will launch a project dedicated to the implementation of A&A at JPL.

1.1.1 Contractor Action	<p>The Contractor to launch a project dedicated to the implementation of A&A at JPL. This will include the development of processes and procedures necessary in response to the A&A process requirements.</p> <p>Clear communication and change management is critical in order to ensure the process is successfully implemented.</p>
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	The Contractor understands that we need to still move forward with plan entry in parallel with this project but request that NASA partner with the Contractor during lessons learned and other collaborative initiatives.
1.1.2 Joint Action	The Contractor and NASA to collaborate on the Risk Management Framework including but not limited to, consistency in the independent assessment, engagement from the AODR, and a shared definition of risk categorization across all stakeholders to help prioritize POAMs.

2.0 Security Plan Visibility & Creation

There are three distinct categories of system security plans at JPL.

1. Flight Projects systems: This category includes all non-subscribed flight project system security plans.
2. Subscribed systems: This category is comprised of one system security plan which is a service delivered and managed by the Service Contractor that includes patch management, hardware, core applications, CDM Suite including BigFix Client, and periodic hardware refreshment. The hardware is procured, owned and managed by the JPL outsourced desktop contractor.
3. Institutional Infrastructure and Support Security Plans: This category includes JPL procured and government owned system security plans that are managed at the system owner level for procurement, patch management, CDM requirements and hardware refresh lifecycle. These systems reside primarily within the JPL line organizations.

The strategy and schedule for migration and creation of these three categories of system security plans are to be broken out in two separate, but parallel work efforts.

As it is the same set of resources working to enter all the plans into RISCS and work through the A&A lifecycle, the Contractor recommends a holistic plan prioritization, data entry and ATO work effort approach.

2.0.1 NASA Action	<ul style="list-style-type: none"> • NASA confirmed that an employee of the Contractor can act as an Authorizing Official Designated Representative. The Contractor will work with the identified AO to nominate a Contractor AODR, with the AO reserving final decision-making authority. • NASA will provide the Security Control Assessor for each plan.
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2.1 Approach and Schedule for NASA's A&A Process

2.1.1 Flight Project Systems Plan Prioritization

For Flight Project Security Plans with an SMD Authorizing Official, plan prioritization will be provided by NASA's Science Mission Directorate in accordance with the guidance issued in the June 23, 2020 letter from NMO subject: Guidance for Authorization To Operate (ATO) Documentation for SMD Systems (included as Appendix B).

All systems with a PDR after June 23, 2020 are required to enter all required documentation into the RISCS system.

1. All development systems in Phase D or later may use a combination of Hard Copy and RISCS entry for issuance of an ATO with a plan to finalize the RISCS transition by June 2022.
2. All development systems not covered by either of the above may have a mixture of Hard Copy and RISCS documentation for evaluation prior to launch. A plan must be developed for transition of all information into the RISCS system with a completion date no later than six-months after launch.
3. All operational systems shall develop a plan to transition documentation into the RISCS system by June 2023 or as coordinated with SMD.
4. NASA SMD will work with JPL to identify the project priorities within the above guidelines for completing and submitting

For Flight Project Security Plans with an Authorizing Official outside of SMD, plan prioritization will be coordinated with the Authorizing Official.

2.1.1.1 Joint Action	The Contractor and NASA SMD to collaborate and finalize the list of in scope existing and near-future Flight Project Plans to help realize a schedule and communicate the upcoming changes to the flight project plan owners.
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2.1.2 Institutional Infrastructure and Support Security Plans

As part of the adoption of the A&A process, the Contractor will re-evaluate the system security boundaries of their Institutional Infrastructure and Support Security plans and refactor new plans based on this evaluation. The Contractor will begin the task of refactoring and restructuring the plans and related assets. After a plan has been re-scoped and related assets assigned to the plan, the Contractor will update the BigFix client on those assets to reflect the new plan number in RISCS.

As there are approximately 120 Infrastructure Security Plans in place at this time, this work effort will require a strategic analysis to understand the scope of work that needs to be performed.

2.1.2.1 Contractor Action	For Institutional Infrastructure and Support Security plans the Contractor will provide a refactor and migration strategy that will include the following information:
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	<ol style="list-style-type: none"> 1. Assessment for level of effort to refactor and restructure these ~120 plans with accurate security boundaries with the expectation of reduction in the number of plans. 2. Prioritize the following system boundaries - infrastructure/lab support; Microsoft 365; ICAM; VPN; SOC; LAN/WAN; Data Center/AWS; Splunk; Active Directory; Security Perimeter Devices 3. Estimated start dates for RISCS entry for priority areas defined above, with the long-term target of a plan prepared for the full ATO lifecycle <p>Delivery of Assessment Findings and Strategy: August 6, 2020</p>
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2.1.3 Subscribed System Security Plan

The Contractor developed a system security plan (SSP) for ITSD Subscribed Systems in RISCS with plan number NN-9999-JPL-4748. This plan includes ~12,000 devices some of which are managed by the Service Contractor that includes patch management, hardware, core applications, CDM Suite including BigFix Client, and periodic hardware refreshment. For the devices managed by the Service Contractor, the hardware is procured and owned by the JPL outsourced desktop contractor and is provided to JPL as a service.

A subset of the devices in plan number NN-9999-JPL-4748 are managed by system plan owners. As each Flight Project system plan and Institutional Infrastructure and Support Security plan is entered/updated in RISCS, the devices assigned to NN-9999-JPL-4748 will be evaluated to determine if any devices under the Contractor's Subscribed system security plan should be moved to the corresponding SSP being entered/updated.

2.1.4 Holistic Schedule

The effort to ensure plan information in RISCS is to give NASA visibility into the Contractor's system security boundaries. To prepare a plan for the full ATO lifecycle requires not only a large amount of data to be gathered and entered on the Contractor's side, but for NASA to perform a full assessment of the controls and full lifecycle partnership from the beginning of the plan creation.

Therefore, the combined schedule to migrate all plans into RISCS needs to include a partner on NASA's side to collaborate with the plan owner and JPL A&A Team.

2.1.4.1 Joint Action	NASA and the Contractor to assess the plans identified in 2.1.1 Flight Project Plans and 2.1.2 Institutional Infrastructure and Support Security plans and prioritize a holistic schedule. If NASA wishes to expedite any specific plans, the Contractor may need additional resources in order to prioritize against an agreed upon schedule.
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3.0 Check In & Lessons Learned

3.0.1 Joint Actions	<p>An initial Lessons Learned was held on July 8, 2020. This meeting demonstrated value by disclosing a need for all parties to identify agreed upon risk metrics, terminology and future business process.</p> <p>The Contractor recommends at least an additional two Lessons Learned check ins for August and September in order to assess plan quality, receive feedback, and drive towards consistency with the A&A process lifecycle.</p> <p>Lessons Learned check ins should include representatives from all impacted stakeholders. At minimum the Lessons Learned meetings will include representatives from NASA's Office of the Chief Information Officer, Science Mission Directorate, and Human Exploration and Operations Mission Directorate, and the Contractor's Information and Technology Solutions Directorate, Engineering and Science Directorate, and Interplanetary Network Directorate.</p> <p>The Contractor is looking to ensure feedback provided is then incorporated into future plan creation in order to streamline the process and would like a standardized approach for the entire lifecycle.</p> <p>Future discussion items include, but are not limited to:</p> <ul style="list-style-type: none"> • Evaluate plans entered into system <ul style="list-style-type: none"> ○ Parties will reassess data entry and NASA expectations ○ Parties will reassess refactoring plans • NASA and the Contractor to continue to evaluate Lessons learned from A&A Process Implementation of small Unmanned Aerial Systems (sUAS), Deep Space Network, Mars 2020, NISAR and SWOT. The lessons learned will be used to refine approach for future cycles. <p>Estimated Completion by: September 30, 2020</p>
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4.0 Technical Support & Training for RISCs

In order to support this process internally, the Contractor will be interacting frequently with the NASA RISCs system. The NASA RISCs system already has RMF training mandatory for NASA Authorizing Officials and an optional "RISCs AO and AODR" training.

The Contractor will need to ensure that there is a formal pathway for support on the NASA RISCs system and training for those that need to perform additional RMF roles.

4.0.1 Contractor Action	Upon AO's approval of a JPL AODR, the JPL AODR will complete training in SATERN.
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5.0 Resource Augmentation to Facilitate Work Effort

As transitioning to the NASA A&A process is resource intensive, the Contractor will need to obtain additional resources in order to assist internal organizations with their completion of the NASA A&A process. After exploring all internal solutions, the Contractor will inform NASA, through NMO, of resource constraints in achieving the deadline. The estimates below are based on the number of plans, the timeline provided by NASA, and the heavy lift needed to migrate between authorization processes between the Contractor and NASA.

5.0.1 Contractor Action	<p>The Contractor will acquire the following roles in order to facilitate requested deadline:</p> <p>The Contractor has estimated the need to hire the following positions</p> <ul style="list-style-type: none"> • Information Systems Security Officers • Information System Security Engineers • Project Managers • Technical Writers • The Contractor will create job descriptions, hire resources, and once staffed up, begin the process of meeting with the prioritized system owners to facilitate the implementation of the NASA A&A process • Funding for matrixed resources on projects that no longer have any budget <p>Estimated Start by: April 15, 2020 – In progress</p>
5.0.2 NASA Action	If NASA wishes to expedite any specific plans, the Contractor may need additional funding or resources to prioritize against an agreed upon schedule.

6.0 Security Configuration Baseline and Management

The Contractor locally manages all IT services and does not participate in the Agency's IT services contract. Therefore, the Contractor has historically derived their security baseline configuration standards through our Prime Contract from NPRs, NPDs, and NIST Security Standards. Each security requirement is accompanied by an Audit Procedure based on 800-53A to ensure compliance with JPL Cybersecurity Requirements.

Although the Contractor has a core build managed by its asset management partner (ManTech), we are reviewing the NASA Agency Security Configuration Standards (ASCS) baseline as provided via the Cybersecurity Standards Engineering Team (CSET) site.

6.0.1 Contractor Action	<ul style="list-style-type: none"> • The Contractor will document the delta between the NASA configuration baselines for operating systems provided in CSET with the existing JPL baselines and communicate to NASA where adopting the NASA configuration baseline would severely impact critical operations. • The Contractor will provide an assessment of the delta between its existing recommended baseline on applications used by both NASA and the Contractor when resources are available. • This assessment will include impact and risk, and a strategy by the Contractor that discusses how and where the baseline can be aligned. For areas that require additional discussion or a deviation from the baseline, the Contractor will provide more details for approval by the NASA SAISO. <p>Estimated Completion by: September 30, 2021</p>
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7.0 Incident Response and Operating Level Agreements for the Security Operation Center (SOC)

The Contractor has negotiated an Operating Level Agreements (OLA) between JPL and the Associate Chief Information Officer (CIO) for Cybersecurity & Privacy Division (included as Appendix A). This agreement covers the provision and support of the NASA Security Operations Center (SOC). The OLA describes the services and metrics required to meet security operations requirements between the JPL SOC and the NASA SOC. Should the scope of the OLA not encompass all related Information Security areas, this plan will be updated, to reflect the plan of executing those areas, unless already identified in the Contractor's Annual Performance Evaluation Management Plan.

8.0 Identity, Credential and Access Management

Consistent with the Decision Memo, *Identity, Credential and Access Management (ICAM)*, dated December 20, 2019, NASA has directed the Contractor to continue to work on the ICAM effort for an additional 18-24 months. The ICAM Implementation Plan deals with a subset of ICAM requirements that have been approved by NASA.

Please reference the ICAM Implementation Plan for specifics concerning the Contractor's ICAM implementation.

9.0 Network Access Control (NAC) Tools - Pulse Secure

JPL uses PulseSecure NAC tools (Pulse Profiler and Pulse Policy Secure) to accomplish network discovery of devices.

This tool was approved for CDM use in place of Forescout, which was the tool prescribed by Booz Allen for CDM implementation. This waiver was granted for several reasons:

- JPL already deployed the PulseSecure NAC tools and had already made a significant investment
- PulseSecure NAC was better able to deploy into JPL's complex and wide-spread network
- PulseSecure NAC has strong connections to the PulseSecure VPN product JPL uses, enabling greater functionality

As part of this waiver, JPL agreed to report data in an automated fashion to the centralized CDM environment in the format that would be expected by all other centers. This data began successfully reporting in February 2020.

The data that is provided is a real-time feed of all devices that connect to any JPL managed networks, including profiles of the devices and their functions.

10.0 Supply Chain Risk Management

Background

NASA FAR Supplement (NFS) Clause 1852.239-74, Information Technology System Supply Chain Risk Assessment was updated on Contract in January 2020 from the (Apr 2016)(Deviation) to the (Sep 2018)(Deviation) via Modification Number 5. The clause requires that the NASA HQ OCIO IT Security Division review the Contractor's supply chain for the risk of cyber- espionage or sabotage before the Contractor acquires any high-impact or moderate- impact IT systems. In the updated version of the clause, "Information Technology (IT) System" has been redefined and the exceptions have been deleted. Modification Number 5 includes a requirement for the Contractor to implement 1852.239-74 (Sept 2018)(Deviation) through a formal Implementation Plan. This chapter of the Plan discusses how the Contractor will implement the updated clause.

The NASA CIO issued the Draft Agency Information and Communications Technology Supply Chain Risk Management Service Handbook (hereafter referred to as the Handbook) which describes the processes and procedures NASA is implementing as it pertains to the Supply Chain Risk Management (SCRM) service it provides to Agency Centers and suppliers, to ensure its alignment with federal requirements. The Handbook sets forth roles and responsibilities that will allow for practical application of the Policy and includes:

- SCRM roles and responsibilities, delegating responsibility to individuals across the agency,
- SCRM procedures creating a set of assessment considerations, and
- Request for Investigation (RFI) processes

The Handbook calls out roles and responsibilities for each participant in the SCRM process. As discussed below, the Contractor plans to implement SCRM in phases. During Phase 1 of its Implementation Plan, the Contractor will map the roles, responsibilities and functions defined in the Handbook to their counterparts at the Contractor. The Contractor will follow/participate in the functions called out in the Handbook for review and/or risk analysis of all covered articles (CA).

The Contractor notes that certain NASA processes, particularly with regard to workflow systems, are not utilizing NASA's RFI process. The Contractor will ensure the RFI workflow process can be integrated into the Contractor's processes and systems consistent with acquiring CA that is approved by the NASA CISO and CIO prior to placement of orders.

The Contractor's Implementation Strategy assumes that all items listed on the NASA Assessed and Cleared List (ACL), which will be updated by NASA regularly, are authorized for the Contractor to acquire. The Contractor's Implementation Strategy further assumes that for items not found on the ACL that NASA will maintain a review and approval process that is consistent with Handbook processes and the Contractor flight project formulation and implementation schedules.

As discussed in each Phase, as part of our partnership, the Contractor will actively participate in the NASA SCRM Working Group to develop best practices and procedures for implementation in each organizations' infrastructures, and to share processes and procedures developed at JPL. To the largest extent practicable, the Contractor will use NASA's Working Group solutions to identify and perform necessary screening. In parallel, the Contractor will integrate SCRM management and compliance oversight into the Contractor's local command media, including its deployment processes, to ensure all relevant information is communicated appropriately throughout the Lab.

Implementation Strategy

The Contractor's Implementation Strategy will be accomplished through three (3) distinct implementation phases.

The Contractor will continue to actively participate in NASA's SCRM Working Group to share processes and procedures developed at JPL and to bring back Center best practices during all phases and beyond as part of our partnership. To the largest extent practicable, the Contractor will use NASA's Working Group solutions to identify and perform necessary screening.

10.1 Phase 1: Commercial off-the-shelf (COTS) CA

As part of Phase 1, the Contractor will provide a detailed implementation plan for the overall initiative.

In Phase 1, the Contractor will focus on Commercial off-the-shelf covered articles. The scope of Phase 1 does not include COTS CA that are for use by flight projects. The COTS CA used by flight projects will be included in Phases 2 and 3.

During Phase 1 the Contractor will actively participate in NASA's SCRM Working Group to share processes and procedures developed at JPL and to bring back Center best practices. To the largest extent practicable, the Contractor will use NASA's Working Group solutions to identify and perform necessary screening. At the end of Phase 1 the Contractor will have processes and procedures in place to screen COTS CA prior to order placement.

10.1.1	Detailed implementation plan:
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Contractor Action	<ul style="list-style-type: none"> • The Contractor to provide a detailed implementation plan schedule for submittal to NASA. <p>Estimated Completion by: Not more than four (4) months after this IP is accepted by NASA, the Contractor will provide a detailed schedule for implementation of this Plan</p> <p>Phase 1: COTS Work Effort:</p> <ul style="list-style-type: none"> ○ Map Agency functions to the Contractor equivalents ○ Analyze acquisition history for COTS CA volume and type ○ Develop methods and tools to identify CA on P-Card and Purchase Orders and capture essential information to perform required screening ○ Work with NASA on RFI workflow processes ○ Educate suppliers and Laboratory personnel ○ Implement screening on COTS CA <p>Estimated Completion by: November 30, 2020</p>
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10.2 Phase 2: Quality Critical Items (QCI)

Phase 2 will concentrate on expanding the tools and processes developed in Phase 1 to encompass Quality Critical Items (QCI). QCI items are used on flight projects and are defined as items requiring heightened Mission Assurance surveillance and handling to protect against counterfeit parts. QCI are managed in accordance with NASA Policy Directive (NPD) 8730.2, NASA Parts Policy, which includes robust requirements to evaluate parts to ensure authenticity prior to use on flight projects. The Contractor will build-out existing QCI processes to incorporate Phase 1 defined activities to screen and vet for cyber risk.

10.2.1 Contractor Action	<ul style="list-style-type: none"> • Phase 2 may include a Pilot Program under which the Contractor will test these processes on a flight project. • At the end of Phase 2 the Contractor will have the processes and procedures in place to screen QCI CA prior to order placement. <p>Estimated Completion by: August 1, 2021</p>
10.2.2. Joint Action	<ul style="list-style-type: none"> • NASA will support the development of Contractor's processes to screen QCI CA, as part of the ongoing participation in the NASA SCRM Working Group. NASA support may include sharing best practices, and joint communication to Missions. NASA SCRM Working Group includes SMD and OCIO representative.

10.3 Phase 3: Tool Expansion

Phase 3 will concentrate on expanding the tools and processes developed in Phase 2 to encompass the remaining CA the Contractor acquires, including flight project hardware and software.

10.3.1 Contractor Action	<ul style="list-style-type: none"> • Phase 3 may include a Pilot Program under which the Contractor will test these processes on a flight project. • At the end of Phase 3 the Contractor will have the processes and procedures in place to screen CA prior to order placement in compliance with the NASA FAR Supplement. <p>Estimated Completion by: March 30, 2022</p>
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If, during any Phase of this Plan the Contractor determines an alternate approach is warranted, the Contractor will propose a revision to this Plan for NASA concurrence.

10.4 Implementation Schedule

The Contractor estimates each Phase of this plan will require approximately 8 (eight) months to complete, with the Phases overlapping to support the planned outcomes. Therefore, the Contractor plans approximately twenty-four (24) months to implement this Plan. As discussed above, the Contractor will provide a detailed schedule to NASA during Phase 1 to accomplish this Plan.

Detailed SCRM Implementation schedule	11/30/2020
Phase 1 - COTS	11/30/2020
Phase 2 - Quality Critical Items	8/1/2021
Phase 3 - Expansion of Phase 2 to remaining CA JPL	3/30/2022

Appendix A: Operating Level Agreement



National Aeronautics and
Space Administration



OPERATING LEVEL AGREEMENT (OLA)

**NASA JET PROPULSION LABORATORY
AND
THE ASSOCIATE CHIEF INFORMATION OFFICER (CIO)
FOR
THE CYBERSECURITY & PRIVACY DIVISION (CSPD)**

**SECURITY OPERATIONS CENTER (SOC)
AND
INCIDENT MANAGEMENT**

JULY 10, 2020

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1.0 Description of the Service

The NASA SOC functions as the only authorized single agency-wide cybersecurity operational entity whose mission is to provide proactive prevention, detection, and response to computer security incidents targeting NASA's unclassified networks and systems. These unclassified NASA networks and systems include but are not limited to the corporate, mission and operational technology domains across NASA's vast spectrum. The NASA SOC will operate 24/7/365 and function as the nerve center for all cybersecurity incident monitoring, reporting, detection, prevention, response, mitigation, and cyber threat analysis for the Agency. The NASA SOC will provide the Agency with real-time, continuous cybersecurity monitoring and triage; uninterrupted event detection; incident analysis, coordination and response; situational awareness; and cybersecurity countermeasure implementation capabilities for maintaining a secure cyber and information assurance posture.

The NASA SOC provides three key core cybersecurity services to the NASA enterprise which includes Monitoring, Detection and Prevention, Incident Containment and Mitigation, and Reporting and Communications. Monitoring, Detection and Prevention provides proactive and timely identification, response, and resolution of issues arising from events that indicate a compromise or that could potentially compromise a NASA information systems. Incident Containment and Mitigation (IC&M) focuses on the isolation of anomalies which threaten NASA networks to reduce the severity or attack surface from a realized event in order to return systems or networks to normal operations. By providing NASA Center IR Teams with Policies and Governance IR, NASA SOC sets the expectations for enterprise wide IC&M. Reporting and Communications provides information used in reporting the Agency's incident response posture to the Centers, ranging from incident trends to specific incident data.

The NASA SOC provides these services through distributed enterprise systems. The distributed enterprise services and systems include a triage service to report IT security incidents, an Incident Management System (IMS) and a Security Information and Event Management System (SIEM). At each NASA Center and facility, the NASA SOC provides systems for IT security detection and monitoring with Intrusion Detection Systems (IDS) and Packet Capture (PCAP) infrastructure. The Office of Cybersecurity Services (OCSS) provides Log Aggregation systems for the collection of log information from Center and the Office of the Chief Information Officer (OCIO) security systems such as firewalls and anti-virus. NASA SOC and Center access to the data from these log aggregation systems is available to the Center's incident response teams.

The NASA SOC partners with the Communications Program (CP) to provide Intrusion Prevention Service (IPS) and sinkhole service capabilities. The sinkhole services provide re-routing and data collection for malicious network traffic, based on domain name service (DNS) and the Internet Protocol (IP). The NASA SOC also partners with the End User Services Program (EUSP), in order to protect against malicious attacks with email as the vector through email blocks or email extraction. The EUSP will leverage a secure email gateway (SEG), in order to support email blocks, based on malicious file attachments, file extensions or Uniform Resource Locators (URL).

The NASA SOC also reviews reports of potential threats and vulnerabilities and attempts to determine which of those threats and vulnerabilities are relevant to the NASA enterprise. The

NASA SOC Cyber Threat Analysis (CTA) team then distributes related information to the NASA cyber security community to enable various parties to act upon that information. NASA needs both proactive and reactive capabilities in addressing computer security at the Agency level. The NASA SOC Cyber Threat Hunt (CTH) team composed of Computer Forensics, Incident Analysis, and Detection functions within the SOC provides cyber security analytical capability and forensics for NASA. This service provides the Agency with fly-away, on-site hunt and detection responses to intrusions; provides indications and warnings of potential threats, incidents, and attacks; as well as analytics in response to incidences suspected or in progress.

The JPL Information Technology (IT) Directorate, also known as the Information and Technology Solutions Directorate (ITSD), provides a suite of IT capabilities and services in support of JPL institutional, mission, and business system computing services to enable the success of NASA missions carried out by JPL. Primary to fulfilling the ITSD's Charter and achieving its goals and objectives is the use of the capabilities of the JPL SOC to protect against, monitor and detect, respond to, mitigate the impact of, and restore services that are impacted by verified network-borne threats (voice or data). At JPL, the ITSD is also responsible for management and oversight of the IT Security incident response function at JPL.

The JPL Cybersecurity Operations Center (JPL SOC) is chartered to deliver the following services and capabilities, which constitute the foundation of this OLA and enable the partnership between the JPL SOC and the NASA SOC.

- A. Risk Identification and assessment
- B. Intrusion detection
- C. Threat prevention and mitigation
- D. Event investigation
- E. Incident triage and reporting
- F. Monitoring, Detection and Prevention
- G. Incident Containment and Mitigation
- H. Reporting and Communications
- I. Intelligence sharing
- J. Incident lessons learned

For the NASA Management Office (NMO), the JPL SOC will support the NMO by providing Incident Response functions including data that may include but not limited to raw data (PCAP when available), IDS signature trigger, probable root cause, agency and center trends and other data that may be captured through SOC systems.

1.1 OLA Scope

This agreement is made between JPL and the Associate Chief Information Officer (CIO) for Cybersecurity & Privacy Division and covers the provision and support of the NASA Security Operations Center (SOC). This OLA will describe the services and metrics required to meet security operations requirements between the JPL SOC and the NASA SOC.

1.2 Location of the Services

NASA Security Operations Center Distributed Operations Sites:

- A. The NASA SOC operates from multiple distributed operation sites ensuring NASA's corporate, mission, and operational security business continuity and security operations assurance.
- B. Distributed operations sites provide a single synchronized and collaborative entity for security operation services to the corporate, mission and operational technology domains across NASA's vast spectrum.
- C. These distributed operations site operates 24/7/365 and singularly function as the nerve center for all cybersecurity incident monitoring, reporting, detection, prevention, response, mitigation, and cyber threat analysis for the Agency.
- D. Each distributed operations site is designed with operational capabilities to maintain security operations services when a distributed operations site is degraded or disabled for varying reasons or lengths of time.

JPL Security Operations Center Site:

- A. Local incident response and incident management functions for JPL will be located at JPL. The staff that supports the NASA SOC Communications and Reporting services will be distributed between ARC and JSC.
- B. The JPL SOC which provides intrusion detection, risk identification and assessment, event investigation, incident reporting and threat prevention will be located at JPL.

NASA Cybersecurity Infrastructure Sites:

- A. NASA Cybersecurity Infrastructure (CSI) maintains multiple Contingency of Operations Plan (COOP) Parallel Processing sites for the services supporting NASA SOC. These sites are distributed between Johnson Space Center (JSC), Kennedy Space Center (KSC), and Ames Research Center (ARC).
- B. NASA CSI maintains NASA SOC support systems distributed across multiple locations

JPL Cybersecurity Infrastructure Site:

- A. JPL SOC maintains all JPL SOC support systems at JPL located in Pasadena, CA.
- B. JPL has a managed desktop contract with ManTech.

2.0 Service Hours

This section will discuss the times when the core services are available.

NASA SOC Core Hours:

Support Hour Type	Details
Business Hours	<ul style="list-style-type: none"> • Mitigation Action Reports (6:00 a.m. – 5:00 p.m. Eastern) • Situational Awareness Reports (6:00 a.m. – 5:00 p.m. Pacific) • Cyber Threat Analysis (6:00 a.m. – 5:00 p.m. Pacific) • Cyber Threat Hunt and Forensics (6:00 a.m. – 5:00 p.m. Pacific) • SOC Strategic Reporting (6:00 a.m. – 5:00 p.m. Pacific)
24 x 7 x 365	<ul style="list-style-type: none"> • Monitoring and Detection • Incident Reporting • Prevention and Mitigation • Incident Management System (IMS) • Security Event and Information Management (SEIM) • Intrusion Detection Systems (IDS) • Packet Capture (PCAP) • Endpoint Detection and Response (EDR) • Intrusion Prevention Systems (IPS) • Office 365 (O365) Email Extraction • Security Email Gateway (SEG) • IP Sinkhole • DNS Sinkhole • Network Blocks

JPL SOC Core Hours:

Support Hour Type	Details
Business Hours	<ul style="list-style-type: none"> • Sourcing & Collection (6:00 a.m. – 8:00 p.m. PT) • Threat Analysis (6:00 a.m. – 8:00 p.m. PT) • Processing & Exploration (8:00 a.m. – 5:00 p.m. PT) • Production & Dissemination (8:00 a.m. – 5:00 p.m. PT) • Cybersecurity Data Analytics Consulting (8:00 a.m. – 5 p.m. PT) • Vulnerability and Vulnerability Assessment (6:00 a.m. – 5:00 p.m. PT) • Threat Hunting (8:00 a.m. – 5:00 p.m. Pacific)
24 x 7 x 365	<ul style="list-style-type: none"> • Incident Response • Security Event and Information Management (SEIM) • Intrusion Detection Systems (IDS) • Packet Capture (PCAP) • Endpoint Detection and Response (EDR) • Intrusion Prevention Systems (IPS) • Security Email Gateway (SEG)

	<ul style="list-style-type: none"> • IP Sinkhole • DNS Sinkhole • Network Blocks • Monitoring and Detection • Mission Situational Awareness
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3.0 Operational Targets and Metrics

This section will discuss operational service targets and metrics associated with security operations.

3.1 General Service Targets

This section will present general services supported by this OLA. For each service, the service providers and targets will be presented. The targets represent the time that it takes to complete actions associated with the service.

Service	Service Provider	Measurement Target
Incident Reporting	NASA SOC	<ul style="list-style-type: none"> • 1 hour after discovery
Incident Reporting	JPL SOC	<ul style="list-style-type: none"> • 1 hour after discovery
Mitigation Action Reports	NASA SOC	<ul style="list-style-type: none"> • 1 business day after the determination of the need to create the report
Situational Awareness Reports	NASA/JPL SOC	<ul style="list-style-type: none"> • 1 business day after the determination of the need to create the report
IP Sinkhole Blocks	JPL SOC / CP	<ul style="list-style-type: none"> • 2 hours after the determination of the need to submit the block
DNS Sinkhole Blocks	JPL SOC / CP	<ul style="list-style-type: none"> • Standard process, twice daily Monday through Friday for normal cases. • 2 hours for emergency blocks
Network Blocks	JPL SOC / CP	<ul style="list-style-type: none"> • 2 hours after the determination of the need to submit the block
Firewall Exemptions	JPL SOC / CP	<ul style="list-style-type: none"> • 2 hours after the validation that it is acceptable to remove the block
Web Content Filter Exemptions	JPL SOC / CP	<ul style="list-style-type: none"> • 9 hours after the validation that it is acceptable to remove the block
Email Extraction (O365 only)	NASA SOC	<ul style="list-style-type: none"> • 1 hour after the determination of the need to extract the email for cases of a single submitter, target or subject

Email Extraction	JPL SOC	<ul style="list-style-type: none"> 1 hour after the determination of the need to extract the email for cases of a single submitter, target or subject
Email Data Collection (O365)	NASA SOC	<ul style="list-style-type: none"> Response time depends on the size and scope of request; typically under 48 hours.
Email Data Collection	JPL SOC	<ul style="list-style-type: none"> 1 hour after request
IDS Signature Implementations	JPL SOC	<ul style="list-style-type: none"> 4 hours to test and deploy the signature, once it is received by SOC operations

3.2 Operational Availability

Operational availability is a measurement of how long a system has been available to use when compared with how long it should have been available to be used. The operational availability targets for JPL are:

Service/System	Availability Target
JPL IDS	99.81%
JPL PCAP	98.36%
All IMS	99.73%
JPL DNS Sinkhole	99.73%
JPL IP Sinkhole	99.73%
JPL IPS	99.18%
All Secure Email Gateways	99%

$$\text{Availability} = \frac{(\text{Scheduled Service Hours} - \text{Duration of Unplanned Outages})}{\text{Scheduled Service Hours}} \times 100\%$$

3.3 Service Continuity

The staff that supports the NASA SOC Monitoring and Detection services will be physically located at two geographically dispersed NASA Centers -- ARC and JSC. The function that supports JPL SOC Monitoring and Detection services will be physically dispersed through a desktop support contractor. The equipment that supports the NASA SOC is geographically dispersed with alternative standby equipment operating in either a warm or hot state. The equipment that support JPL SOC will be geographically dispersed between JPL and an external site through the desktop support contractor. The expected Service Availability Objectives are as follows:

Service	Service Availability Objective
SIEM	98.0%
IDS	99.9%
PCAP	99.9%
Endpoint Threat Detection and Response	99.9%
Intrusion Prevention Systems	99.99%
DNS Sinkhole	98.0%
IP Sinkhole	98.0%
Security Email Gateway	99.0%

4.0 Incident Management and Service Request

JPL maintains an incident management system and Service Now portal, which is independent of NASA's solution. If an incident meets the defined criteria as stated in this document, to be considered NASA reportable, JPL interfaces with the NASA RSA Archer Incident Management System (NASA SOC IMS) to open, update, or close a report. The NASA SOC IMS will become the authoritative record, containing all official record status, tracking and resolution on the incident. The tables below identify the OLA participant's specific responsibilities for incident management and service request.

NASA SOC Responsibilities
The NASA SOC will provide an Incident Management System to allow JPL to record incident data.
The NASA SOC will provide tactics, techniques and procedures to the JPL SOC, that the NASA SOC leverages to enact network blocks, endpoint sweeps, DNS sinkhole blocks and IP sinkhole blocks.
The NASA SOC will provide Agency-level indications and warnings for threats that impact NASA or JPL systems.
The NASA SOC will collaborate in support for and coordination of planned administrative activities and unplanned incidents/issues.
The NASA SOC will collaborate with the JPL SOC to provide critical information to assist in analyzing and resolving incidents/issues.
The NASA SOC will provide event and incident data for NASA-monitored networks when JPL systems could be impacted.
The NASA SOC will provide incident tracking and reporting for the Agency. CUI, ITAR, EAR and PII incident data sent to Agency and Center CIOs in Daily Reports and Privacy Officials per occurrence. Incident status sent to CISOs, Office of Inspector General (OIG), Office of Protective Services, Office of International and Interagency Relations, Center Incident Response Manager and Center incident response teams.
The NASA SOC will provide the Agency with continuous, uninterrupted (24x7x365) event detection, situational awareness, and incident management capabilities so the Agency can maintain a sound and secure information posture.

In support of NASA SOC, the agency requires capabilities in incident response, computer forensics, incident management, event monitoring, reverse engineering, and security systems administration. The SOC provides three key services to the NASA enterprise:

- Monitoring, Detection and Prevention
- Incident Containment and Mitigation
- Reporting and Communications.

Monitoring, Detection and Prevention provides proactive and timely identification, response, and resolution of issues arising from events that indicate a compromise or that could potentially compromise a NASA information systems.

Incident Containment and Mitigation (IC&M) focuses on the isolation of anomalies which threaten NASA networks to reduce the severity or attack surface from a realized event in order to return systems or networks to normal operations.

Reporting and Communications provides strategic information used in reporting the Agency's incident-response posture to the Centers. At times, NASA also collaborates with other U.S. Federal Government entities, and external partners in furtherance of U.S. cyber security goals, initiatives, as well as responds to incidents and shares threat indicators.

The NASA SOC will provide DNS and IP sinkhole capabilities, operational 24/7 with a 3 hour on-call response time during non-business hours not inclusive of CNOC/DDI SLA's. OSINT data will be mitigated twice a day M-F normal business hours.

The NASA SOC will utilize a SIEM, in order to correlate and filter IT security events.

The OCSS will provide a log aggregation system, for the collection of IT security data. Also, the NASA SOC will provide full access to the collected Agency log data to the Center IT Security Teams. Questions regarding Agency log data should be sent to esd at esd@nasa.gov.

The JPL SOC will provide reporting – through the JPL SOC Database to the NASA IMS – all JPL-related event and incident data originating on networks that JPL manages or over which JPL is cognizant, based on the agreed-upon event/incident types based on DHS Reporting Requirements.

- Coordinates and case manages (tracks) responses to all incidents/issues.
- Serves as the POC for status on incidents/issues and provides updates on demand or via email notification list(s) provided and maintained by an impacted group or the ITSD, as appropriate.

The JPL SOC will input required incident data determined by DHS Reporting Requirements as related to IT security incidents in the SOC Incident Management System (IMS) from initial entry to closure of the incident. The initial entry made by the JPL SOC will be such that the one-hour reporting criteria to US-CERT for security incidents will be met. Further time based requirements may be modified based on DHS Reporting requirements for Federal Agencies.

JPL SOC will review IMS open JPL tickets and tasks daily and update all progress made for each ticket and task. As incidents are resolved in IMS, the JPL SOC Incident Response Manager and CISO is responsible for validating;

- Functional Impact to the system
- Informational Impact to the system

<ul style="list-style-type: none"> • Recoverability Impacts to the system • Threat Vector • Costs associated to local incident response teams <p>The aforementioned validations may change as reporting requirements from DHS are changed.</p>
The JPL SOC will collaborate with NASA Centers to capture and/or investigate forensics images upon request from the NASA SOC on an as-needed basis.
Engineers, sustains, administers, and operates a Cybersecurity infrastructure in order to monitor and assess JPL networks for indications of confirmed or possible compromised systems.
The JPL SOC will promptly review, investigate, and remediate all Tasks, Events, or Incidents recorded by the NASA SOC in the IMS related to a confirmed or suspected Cybersecurity compromise, data spillage, or malicious activity.
The JPL SOC will provide the NASA SOC with indications and warnings gathered from JPL unique toolsets, when lack of collaboration could cause Agency-wide impact.
The JPL SOC will provide After business hour support for end-user reported Cybersecurity events based on urgency of immediate actions required to mitigate a malicious activity, in accordance with the general service targets noted in section 3.1
The JPL SOC will coordinate and case manage (tracks) responses to all incidents/issues In Accordance with DHS reporting requirements.
The JPL SOC will serves as the POC to the NASA SOC for status on incidents/issues and provides updates on demand or via email notification list(s) provided and maintained by an impacted group or the ITSD, as appropriate.
The JPL SOC will provide NASA SOC all relevant logs as stated in Appendix C pursuant to the technical integration of a data stream processor located at JPL SOC. The DSP will stream each required log/data type to NASA's CSI facilities for NASA SOC Tier 1 Monitoring and Alerting.

5.0 Periodic Reviews

All parties will participate in ongoing service measurement, service analysis, and review of this OLA to ensure issues are resolved successfully. At a minimum, this OLA should be reviewed annually. Modifications to the terms of this OLA should be reviewed at a joint NASA/NMO/JPL ITSD/JPL OCM meeting. This meeting may be conducted in tandem with other NASA/JPL IT project/initiative reviews.

6.0 Configuration Management

The configuration changes of NASA managed sensors and IT tools supported by this OLA are governed by configuration control boards (CCB) related to the specific toolsets. CP, EUSP and the Cyber Security Infrastructure (CSI) have CCBs that govern configuration changes.

Scheduled operational changes and unplanned outages to the systems supporting this OLA will be reported to NASA SOC IMS users through a standardized mailing list. The configuration changes for JPL managed sensors and IT Tools supported by this OLA are governed by the JPL ITSD Change Request Management system and the JPL Enterprise Request Board.

7.0 Service Level Management and Escalation

If there are any concerns related to services definitions or service levels, contact the NASA SOC Program Executive or the NASA SOC Operations Manager for resolution.

If issues associated with this OLA are not resolved, then escalation and issue resolution can be obtained based on the table below:

Escalation Level	When to Use	Whom to Escalate
Level 1: Normal Issue Management	<ul style="list-style-type: none">When resolving day to day engagement issues	soc@nasa.gov
Level 2 Escalation	<ul style="list-style-type: none">When normal issue management has failed to achieve resolution	SOC Operations Manager
Level 3 Escalation	<ul style="list-style-type: none">When Level 2 efforts have failed or when multiple services are impacted	Associate CIO for Cybersecurity & Privacy Division, NASA NMO and the JPL CISO

If there are any concerns related to services definitions or service levels, contact the JPL SOC Team Lead or the JPL SOC Operations Manager for resolution.

If issues associated with this OLA are not resolved, then escalation and issue resolution can be obtained based on the table below:

Escalation Level	When to Use	Whom to Escalate
Level 1: Normal Issue Management	<ul style="list-style-type: none">When resolving day to day engagement issues	jplsoc-ops@jpl.nasa.gov
Level 2 Escalation	<ul style="list-style-type: none">When normal issue management has failed to achieve resolution	SOC Operations Manager/CNI Section Manager
Level 3 Escalation	<ul style="list-style-type: none">When Level 2 efforts have failed or when multiple services are impacted	JPL Chief Information Security Officer

8.0 Monitoring and Reporting

A number of deliverables include reports that are rolled into one or more of the following reports; these reports have been added to the deliverable description where applicable as well as the SLA table (attached):

- Daily Activity Report(DAR)
- Weekly CISO Report(WCR)
- Weekly Situation Report(WSR)
- Weekly Task Report(WTF)
- Weekly Threat Report(WThR)
- Weekly Signature Report(WSgR)
- Bi-Weekly Mitigation Report(BWMR)
- Monthly SMG Report(MSMG)
- Monthly CIO Report(MCIO)
- Quarterly CISO Report(QCR)

In order to support the above referenced deliverables, JPL SOC will update IMS in accordance with targets in section 3.1 General Service Targets. NASA will generate the reports.

Service Response Table is included as Appendix D

9.0 Cost

Each party will cover costs associated with the services described in this OLA for their respectively managed assets. JPL anticipates that all costs associated with the JPL provided services described in this OLA will be funded by Institutional Indirect Cost.

10.0 Security and Governance

JPL SOC will be given practicable opportunities to participate in NASA Governance Boards and working groups that deal with matters which are likely to impact JPL.

Appendix A - Acronyms

ARC	Ames Research Center
CCB	Configuration Control Board
CFIA	Computer Forensics and Incident Analysis
CIO	Chief Information Officer
CISO	Chief Information Security Officer
CSI	Cyber Security Infrastructure
CSPD	Cybersecurity and Privacy Division
CNI	Cybersecurity, Networking and Identity
CP	Communications Program
CUI	Controlled Unclassified Information
D2E2	Data Discovery Exploration Engine
DHS	Department of Homeland Security
DNS	Domain Name Service
EAR	Export Administration Regulations
EUSP	End User Services Program
FIPS	Federal Information Processing Standards
IR	Incident Response
IRM	Incident Response Manager
IRT	Incident Response Team
IMS	Incident Management System
IP	Internet Protocol
IDS	Intrusion Detection System
IPS	Intrusion Prevention System
IT	Information Technology
ITAR	International Traffic in Arms Regulations
ITSATC	IT Security Awareness and Training Center
ITSD	JPL Information and Technology Solutions Directorate
JPL	Jet Propulsion Laboratory
JPL SOC	JPL Cybersecurity Operations Center
JSC	Johnson Spaceflight Center
KSC	Kennedy Spaceflight Center
MAR	Mitigation Action Requirements
MSFC	Marshall Space Flight Center
NASA	National Aeronautics and Space Administration
NIST	National Institute of Standards and Technology
NCCIC	National Cybersecurity and Communications Integration Center
NMO	NASA Management Office
NPD	NASA Policy Directives
NPR	NASA Policy Requirements
OCIO	Office of the Chief Information Officer
OCSS	Office of Cybersecurity Services
OIG	Office of the Inspector General
OPS	Office of Protective Services
PII	Personally Identifiable Information
RTO	Return to Operations
SAISO	Senior Agency Information Security Officer
SEG	Secure Email Gateway
SOC	Security Operations Center
TIC	Trusted Internet Connection

URL Uniform Resource Locators

Appendix B - Definitions

The following table contains definitions for key terms used in this document.

Table 1. Definitions

Term	Definition
Cybersecurity Event	A security anomaly that is under initial investigation to determine whether there is a potential threat or impact to the integrity, availability, or confidentiality of information being processed or stored.
Cybersecurity Incident	An adverse event or situation associated with electronic and/or non-electronic information, resulting in a direct and verified exploitation of a system or system of systems that impacts the integrity, availability, or confidentiality of information being processed or stored.
JPL Cybersecurity Operations Center (aka JPL SOC)	Centralized JPL team for Cybersecurity/Identity Operations and management activities.
JPL Information Technology Directorate [aka the Information and Technology Solutions Directorate (JPL ITSD)]	JPL organization responsible for architecting, engineering, managing, implementing and provisioning, and operating and supporting JPL information technology assets and the processes, policies, guidelines, and procedures associated with them.
NASA Security Operations Center (NASA SOC)	NASA organization responsible for the collection, management and DHS Communications of Cybersecurity Incidents.
Privacy Information (PII)	Any information about an individual maintained by an agency, including (1) any information that can be used to distinguish or trace an individual's identity, such as name, social security number, date and place of birth, mother's maiden name, or biometric records; and (2) any other information that is linked or linkable to an individual, such as medical, educational, financial, and employment information.

Appendix C – JPL SOC Log Integration

Group 1 Data:

- JPL DNS Logs
- JPL Firewall Logs
- JPL IDS Data
- JPL AD Logs

Group 2 Data

- JPL Web Content Filter (WCF)
- JPL Web Application Firewall (WAF)
- JPL Email
- JPL Anti-Virus

Group 3 Data

- JPL Cloud Access Logs
- JPL Boundary Routers
- JPL Intrusion Prevention System (IPS)
- JPL Virtual Privet Network (VPN) gateways

		Response Times							Service Provider		
		NISA SOC		Incident Response Team							
Event/Service/Capability		Threshold	Objective	Identification	Analysis	Containment	Eradication	Recovery	Provider	Threshold	Objective
Triage	Incident Reporting - Level 15 Emergency (Black)	Immediate	Immediate	Immediate	Within 1 Day	Within 2 Days	Within 3 Days	Within 4 Days		Immediate	Immediate
	Incident Reporting - Level 14 Severe (Red)	1 Hour	Within 30 min	Within 30 Minutes	Within 2 Days	Within 3 Days	Within 4 Days	Within 5 Days		1 Hour	Within 30 Min
	Incident Reporting - Level 3 High (Orange)	Within 1 hour	Within 1 Days	Within 1 Hour	Within 3 Days	Within 4 Days	Within 5 Days	Within 1 Week		Within 1 Hour	Within 1 Days
	Incident Reporting - Level 12 Medium (Yellow)	Within 2 Hours	Within 2 Days	Within 2 Hours	Within 5 Days	Within 1 Week	Within 10 Days	Within 2 Weeks		Within 2 Hours	Within 2 Days
	Incident Reporting - Level 1 Low (Green)	Within 4 Hours	Within 1 Week	Within 4 Hours	Within 1 Week	Within 10 Days	Within 2 Weeks	Within 20 Days		Within 4 Hours	Within 1 Week
	Incident Reporting - Level 10 Baseline (White)	N/A	N/A	Within 8 Hours	N/A	Within 2 Weeks	Within 20 Days	Within 30 Days			
	Monitoring & Detection (B.P.) - Level 15 Emergency (Black)	Immediate	Immediate	Immediate	Within 1 Day	Within 2 Days	Within 3 Days	Within 4 Days		Immediate	Immediate
Monitoring & Detection (Boundary Protection)	Monitoring & Detection (B.P.) - Level 14 Severe (Red)	1 Hour	Within 30 min	Within 30 Minutes	Within 2 Days	Within 3 Days	Within 4 Days	Within 5 Days		1 Hour	Within 30 Min
	Monitoring & Detection (B.P.) - Level 3 High (Orange)	Within 1 hour	Within 1 Days	Within 1 Hour	Within 3 Days	Within 4 Days	Within 5 Days	Within 1 Week		Within 1 Hour	Within 1 Days
	Monitoring & Detection (B.P.) - Level 2 Medium (Yellow)	Within 2 Hours	Within 2 Days	Within 2 Hours	Within 5 Days	Within 1 Week	Within 10 Days	Within 2 Weeks		Within 2 Hours	Within 2 Days
	Monitoring & Detection (B.P.) - Level 1 Low (Green)	Within 4 Hours	Within 1 Week	Within 4 Hours	Within 1 Week	Within 10 Days	Within 2 Weeks	Within 20 Days		Within 4 Hours	Within 1 Week
	Monitoring & Detection (B.P.) - Level 10 Baseline (White)	N/A	N/A	Within 8 Hours	N/A	Within 2 Weeks	Within 20 Days	Within 30 Days			
	Cyber Threat Detection (I.P.) - Level 15 Emergency (Black)	1 Hour	Within 30 min	Immediate	Within 1 Day	Within 2 Days	Within 3 Days	Within 4 Days		1 Hour	Within 30 min
	Cyber Threat Detection (I.P.) - Level 14 Severe (Red)	Within 1 hour	Within 1 Days	Within 30 Minutes	Within 2 Days	Within 3 Days	Within 4 Days	Within 5 Days		Within 1 hour	Within 1 Days
Cyber Threat Detection (Internal Protection)	Cyber Threat Detection (I.P.) - Level 3 High (Orange)	Within 2 Hours	Within 2 Days	Within 1 Hour	Within 3 Days	Within 4 Days	Within 5 Days	Within 1 Week		Within 2 Hours	Within 2 Days
	Cyber Threat Detection (I.P.) - Level 2 Medium (Yellow)	Within 4 Hours	Within 1 Week	Within 2 Hours	Within 5 Days	Within 1 Week	Within 10 Days	Within 2 Weeks		Within 4 Hours	Within 1 Week
	Cyber Threat Detection (I.P.) - Level 1 Low (Green)	Within 5 Hours	Within 2 Weeks	Within 4 Hours	Within 1 Week	Within 10 Days	Within 2 Weeks	Within 20 Days		Within 5 Hours	Within 2 Weeks
	Cyber Threat Detection (I.P.) - Level 10 Baseline (White)	N/A	N/A	Within 8 Hours	N/A	Within 2 Weeks	Within 20 Days	Within 30 Days		N/A	N/A
	Cyber Threat Hunt - Level 5 Emergency (Black)	Identification 12 hours	Analysis 1 Day	Immediate	Within 1 Day	Within 2 Days	Within 3 Days	Within 4 Days		Identification 12 hours	Analysis 1 Day
	Cyber Threat Hunt - Level 4 Severe (Red)	Identification 12 hours	Analysis 2 Days	Within 30 Minutes	Within 2 Days	Within 3 Days	Within 4 Days	Within 5 Days		Identification 12 hours	Analysis 2 Days
	Cyber Threat Hunt - Level 3 High (Orange)	Identification 1 day	Analysis 3 Days	Within 1 Hour	Within 3 Days	Within 4 Days	Within 5 Days	Within 1 Week		Identification 1 day	Analysis 3 Days
Cyber Threat Hunt	Cyber Threat Hunt - Level 2 Medium (Yellow)	Identification 2 Days	Analysis 5 Days	Within 2 Hours	Within 5 Days	Within 1 Week	Within 10 Days	Within 2 Weeks		Identification 2 Days	Analysis 5 Days
	Cyber Threat Hunt - Level 1 Low (Green)	Analysis 4 Days	Analysis 10 Days	Within 4 Hours	Within 1 Week	Within 10 Days	Within 2 Weeks	Within 20 Days		Analysis 4 Days	Analysis 10 Days
	Cyber Threat Hunt - Level 10 Baseline (White)	N/A	N/A	Within 8 Hours	N/A	Within 2 Weeks	Within 20 Days	Within 30 Days		N/A	N/A
	Cyber Forensics & Incident Analysis - Level 15 Emergency (Black)	Analysis 1 Day	Recovery 4 Days	Immediate	Within 1 Day	Within 2 Days	Within 3 Days	Within 4 Days		Analysis 1 Day	Recovery 4 Days
	Cyber Forensics & Incident Analysis - Level 14 Severe (Red)	Analysis 2 Days	Recovery 5 Days	Within 30 Minutes	Within 2 Days	Within 3 Days	Within 4 Days	Within 5 Days		Analysis 2 Days	Recovery 5 Days
	Cyber Forensics & Incident Analysis - Level 3 High (Orange)	Analysis 3 Days	Recovery 1 Week	Within 1 Hour	Within 3 Days	Within 4 Days	Within 5 Days	Within 1 Week		Analysis 3 Days	Recovery 1 Week
	Cyber Forensics & Incident Analysis - Level 2 Medium (Yellow)	Analysis 4 Days	Recovery 2 Weeks	Within 2 Hours	Within 5 Days	Within 1 Week	Within 10 Days	Within 2 Weeks		Analysis 4 Days	Recovery 2 Weeks
Cyber Forensics & Incident Analysis	Cyber Forensics & Incident Analysis - Level 1 Low (Green)	Analysis 4 Days	Recovery 2 Weeks	Within 4 Hours	Within 1 Week	Within 10 Days	Within 2 Weeks	Within 20 Days		Analysis 4 Days	Recovery 2 Weeks
	Cyber Forensics & Incident Analysis - Level 10 Baseline (White)	N/A	N/A	Within 8 Hours	N/A	Within 2 Weeks	Within 20 Days	Within 30 Days		N/A	N/A
	Cyber Threat Analysis & Intelligence - Level 15 Emergency (Black)	1 Hour	Within 30 min	Immediate	Within 1 Day	Within 2 Days	Within 3 Days	Within 4 Days		1 Hour	Within 30 min
	Cyber Threat Analysis & Intelligence - Level 4 Severe (Red)	Within 1 hour	Within 1 Days	Within 30 Minutes	Within 2 Days	Within 3 Days	Within 4 Days	Within 5 Days		Within 1 hour	Within 1 Days
	Cyber Threat Analysis & Intelligence - Level 3 High (Orange)	Within 2 Hours	Within 2 Days	Within 1 Hour	Within 3 Days	Within 4 Days	Within 5 Days	Within 1 Week		Within 2 Hours	Within 2 Days
	Cyber Threat Analysis & Intelligence - Level 2 Medium (Yellow)	Within 4 Hours	Within 1 Week	Within 2 Hours	Within 5 Days	Within 1 Week	Within 10 Days	Within 2 Weeks		Within 4 Hours	Within 1 Week
	Cyber Threat Analysis & Intelligence - Level 1 Low (Green)	Within 5 Hours	Within 2 Weeks	Within 4 Hours	Within 1 Week	Within 10 Days	Within 2 Weeks	Within 20 Days		Within 5 Hours	Within 2 Weeks
Cyber Threat Analysis & Intelligence	Cyber Threat Analysis & Intelligence - Level 10 Baseline (White)	N/A	N/A	Within 8 Hours	N/A	Within 2 Weeks	Within 20 Days	Within 30 Days		N/A	N/A
	Incident Reporting - Level 15 Emergency (Black)	Immediate	Immediate	Immediate	Within 1						

Appendix B: NASA Management Office Letter Subject: Guidance for Authorization To Operate (ATO) Documentation for SMD Systems

National Aeronautics and Space
Administration

NASA Management Office



June 23, 2020

Reply to NASA Management Office

TO: Richard Cook, Laboratory Associate Director

FROM: Christine Bonniksen, Contracting Officer Representative, NASA Management Office

SUBJECT: Guidance for Authorization To Operate (ATO) Documentation for SMD Systems

This memo is provided in support of JPL's request for guidance associated with the transition from the JPL unique system to the NASA Risk Information Security Compliance System (RISCS) for documentation of artifacts needed for the issuance of an Authorization to Operate (ATO). Below is the general guidance for planning purposes:

1. All systems with a PDR after the date of this letter are required to enter all required documentation into the RISCS system.
2. All development systems in Phase D or later may use a combination of Hard Copy and RISCS entry for issuance of an ATO with a plan to finalize the RISCS transition that will not exceed two years from the date of this letter.
3. All development systems not covered by either of the above may have a mixture of Hard Copy and RISCS documentation for evaluation prior to launch. A plan must be developed for transition of all information into the RISCS system with a completion date NLT 6 months after launch.
4. All operational systems shall develop a plan to transition documentation into the RISCS system within 3 years of the date of this letter or as coordinated with SMD per item 5 below with the adjusted due date documented in return correspondence.
5. NASA SMD will work with JPL to identify the project priorities within the above guidelines for completing and submitting the documentation required for the issuance of an informed ATO determination.

If there is concern this request cannot be accomplished within the current provisions of the existing Caltech Prime Contract, please contact me immediately so the necessary modification(s) may be initiated. For concerns or questions related to this request, I may be contacted at 818-354-1682.

Christine K. Bonniksen Contracting
Officer Representative NASA
Management Office

CC: Scott Morgan, JPL/ESD
Charles Whetsel, JPL/ESD
Katrina Christian, JPL/Contract Management Section

Preston Miller JPL/CISO
Randi Levin, JPL/CIO
Robert Binkley, HQ/OCIO
Marion Meissner, HQ/OCIO
Lara Petze, HQ/OCIO
Gerald Smith, HQ/SMD
Betsy Edwards, HQ/SMD
Sandra Connelly, HQ /SMD
Mayra Montrose, HQ/SMD
Marcus Watkins, HQ/NMO
Kaiser Adeni, HQ/NMO
Abe Awwad, HQ/NMO
Lynn Torres, NMO Contracting Officer
David Crouch, NASA Procurement Officer

Office of the Chief Information Officer

ICAM Implementation Plan

Directive Information

NPRs and NPDs:

NPR 2841.1 Identity, Credential, and Access Management
NPR 1600.4A Identity and Credential Management

NASA Responsible Office: Office of the Chief Information Officer

Background

Representatives of the National Aeronautics and Space Administration (NASA) and the Jet Propulsion Laboratory (JPL), hereinafter referred to as Contractor, including both Chief Information Officers, met on November 5, 2019 to discuss the scope of the Identity, Credential and Access (ICAM) Implementation Plan. As input to the implementation plan, the group first reviewed the ICAM Transition Resource Impact Assessment deliverable defined in the IT Transition Plan. Consistent with the Decision Memo Identity, Credential and Access Management (ICAM) dated December 20, 2019, NASA has directed the Contractor to continue to work on the effort for an additional 18-24 months. This Implementation Plan addresses the ICAM requirements referenced in the decision memo. A check-point Face-to-Face will be coordinated by the NASA Management Office (NMO), and include senior leaders from HQ Office of the Chief Information Officer (OCIO), HQ Office of Protective Services (OPS) and the NMO.

Purpose

ICAM is an information technology (IT) discipline that has developed out of industry's need for a branch of knowledge and a community of specialists centering on ICAM research, training, and practice. The ICAM discipline helps organizations standardize (a) management of identities, (b) safeguards related to identity, and (c) norms for referencing identities and/or handling identity data, both within and across organizations, through people, processes, and technology. The Contractor has implemented ICAM solutions in a matrixed fashion to meet the Contractor's business, administrative, and mission needs. However, the resulting ICAM architecture is not fully congruent with NASA's need for standardization and oversight. The implementation plan herein was established to fill key gaps and establish greater ICAM coordination between NASA and the Contractor.

Implementation Strategy

A list and description of each of the projects that conform the ICAM implementation plan follows.

- I. **Establish a Dedicated JPL ICAM Program Office** – the Contractor will designate a cross-functional program office to oversee JPL's ICAM efforts for enterprise risk management, effective governance, and implementation.
- II. **Establish IdMAX as the Authoritative Source for Identities** – the Contractor will streamline the collection and maintenance of identity information to ensure that IdMAX is

the authoritative source of identity for ICAM. Information will be entered directly into NASA's IdMAX.

- III. **Refine Personally Identifiable Information (PII) Data Collection** – the Contractor will analyze ICAM systems that contain PII and implement opportunities to reduce or eliminate collection and storage of PII.
- IV. **Implement Contract Agreement Identification in IdMAX** – the Contractor will analyze its contract agreement management processes and provision agreement information into IdMAX. This will align affiliated identities to their appropriate contractual agreements and document the period of performance.
- V. **Establish NASA Identities for all remote users** – the Contractor will revise the remote user process to ensure all remote users have active NASA identities and UUPICs. In addition, these remote users will be assigned logical assets and vetted via NAMS to coincide with their level of risk.
- VI. **Implement Logical Risk Assessments on JPL IT Assets** – the Contractor will perform risk assessments on logical assets to determine the appropriate NASA level of risk (LOR) and level of confidence (LOC) needed for access.
- VII. **Begin Populating NAMS with JPL IT Assets** – the Contractor will begin entering the results of Logical Risk Assessments into NAMS to facilitate access control governance and administration.
- VIII. **Complete PIV Mandatory Authentication (Logical)** – the Contractor will manage the deployment of PIV authentication for logical access to systems and applications.
- IX. **Business Impact Assessment** – the Contractor will conduct a joint Business Impact Analysis with NASA to further determine potential financial, technical, and administrative impact of the ICAM implementation.

Schedule

ICAM Project Schedule	
Project	Completion Date
Establish NASA Identities for all remote users	2/28/2020 <i>Completed</i>
Complete PIV Mandatory Authentication (<i>Temporary Suspended Due to COVID-19</i>)	*TBD
Begin Populating NAMS with JPL IT Assets	6/30/2020 <i>Completed</i>

Implement Contract Agreement Vehicle Identification in IdMAX	8/31/2020
Business Impact Analysis (BIA)	1/15/2021
Establish IdMAX as the Authoritative Source for Identities	12/31/2020
Establish a Dedicated JPL ICAM Program Office	12/31/2020
Refine Personally Identifiable Information (PII) Data Collection	11/30/2021
Implement Logical Risk Assessment JPL IT Assets	11/30/2021

*Project was scheduled for completion by June 30, 2020. Due to the mandatory telework requirements in response to COVID-19 and the ITSD resources the Contractor needs to support this effort, the Contractor suspended SmartCard/PIV-Mandatory (Logical) rollout as of March 11, 2020. Once normal activities resume the Contractor will reassess status and communicate updated completion date to the NMO.

Resources

The Contractor anticipates engaging the support of sub-contractors to execute the projects within the scheduled due dates. In doing so, the Contractor will provide the maximum practicable opportunities to Small Business Concerns during the acquisition process.

NASA Resources: Ongoing participation in the JPL ICAM workgroup and support communicating with and engaging other NASA stakeholders, as needed.

Surveillance Performance Indicators

- a) A 12-month check-point Face-to-Face will be coordinated by NMO, and include senior leaders from HQ OCIO, HQ OPS and NMO.
- b) Quarterly status reports, highlighting progress and any issues which require leadership assistance, shall be submitted through the JPL contracting office to a parallel distribution of NASA OCIO and NMO.
- c) Monthly working groups with NASA/JPL ICAM SMEs to ensure major technical project milestones/considerations are addressed. New and/or modified deliverables shall be submitted through the JPL contracting office and NMO, respectfully.

(Mod 7)

Office of the Chief Information Officer

Software License Management Implementation Plan

Directive Information

NASA Responsible Office: NASA Office of the Chief Information Office

1) Scope

Pursuant to the Information Technology Transition Plan, the focus of this Implementation Plan (the Plan) is to create a centralized and consistent set of processes, including consolidation of all commercially off the shelf software (COTS) licenses into a single Software Asset Management (SAM) System, for all categories of software except Computer Aided Engineering (CAE) software. The CAE software licensing process is addressed in the Information and Technology Solutions Directorate (ITSD) Transition Plan (formerly the OCIO Transition Plan).

In support of this goal, the Contractor will:

- Establish a cross discipline Software Acquisition Governance Team.
- Create and staff an Information Technology Asset Manager (ITAM) Position that will work closely with the NASA Agency Software Manager (ASM)
 - ITAM will obtain NASA training
- Create a set of procedures to organize and implement all seven phases of the Software License Management Lifecycle, including:
 - Approval and recording of software purchased with the Contractor Purchase Orders
 - Approval and recording of software purchased with the Contractor P-Cards
 - Approval and recording of software obtained from the Contractor's IT Catalog
- Build out and populate the Software Asset Management module in Service Now for:
 - Productivity Software (Category 1)
 - Individually purchased software for Desktops (Category 2)
 - Individually purchased/obtained software for servers
 - Chargeback software licenses
 - Enterprise Software
 - Software as a Service (SaaS).

- Create a process for identifying Free and Open Software (FOSS) and Trial Software, and work with NASA to establish guidelines for review and acceptance of associated Terms and Conditions and End User License Agreements (EULA).

The Contractor will comply with NASA's Supply Chain Risk Management requirements in accordance with the Information Security Implementation Plan requirements.

2) Exceptions

- In accordance with the ITSD Transition plan approved by NASA, CAE software is outside the scope of this Implementation Plan. The CAE software licensing process is mature, meets our contractual requirements and is auditable.
- This plan covers all COTS, including customized COTS. Unique software JPL develops for mission systems is not included.

3) Implementation Strategy

The Contractor's Implementation Strategy will be accomplished through the following actions. The Contractor, in collaboration with NASA, will:

- Complete an inventory of the Software currently in the Contractor's environment and share its results with the Software License Management System (SLMS) workgroup.
- Continue to develop the Software Asset Module (SAM) to record all software purchases.
- Create a Software Catalog in Service Now that lists the Software approved for use by the Contractor (to include Cyber and Business Governance).
- Continue to develop the Acquisition Division P-Card tracking system to ensure that the proper fields are captured.
- Train the P-Card holders on software purchases. Only trained card holders will be permitted to purchase software.
- Fully implement the SaaS review process, including communication about the use of SaaS in the Contractor's environment to the Contractor's personnel.

The Contractor will implement key areas of this strategy through the following projects:

Project 1: Software Inventory Assessment

The Software Inventory Assessment project will result in an inventory of the Software currently in the Contractor's environment. This includes the following activities.

- Determine where and which software exists in the Contractor's environment.
- Systems with BigFix installed will allow for scanning.
- The Contractor will review the last year of software procurements and renewals to determine what has been purchased and associate those purchases to the appropriate Plans.

Assumptions

- It is expected that the majority of software by titles exists in the Contractor's Information Technology Security Database (ITSDB) Plan 537 Subscribed Computers.

- It is expected that a majority of dollar value software exists in IT Plans that provide services to the Lab; that software will be identified in the Application Security Records for these systems: – Business Systems,
 - Product Data Management,
 - Collaboration, and
 - Data Exchange Architecture (DEA).
- The collection of additional deployment information as part of the Purchase Order process will enable the association of software with the appropriate System Security Plans. The Contractor will ensure that the proper fields are captured and training the P-Card holders on software purchases.

Schedule Status:

The Contractor is studied FY2019 P-Card and Purchase Order data. BigFix Discovery commenced in April 2020. The analysis was complete by the end of June 2020.

Project 2: Software Asset Module (SAM) Enhancements

This project is to continue enhancements for additional data points to be collected in the SAM for recording software purchases.

- The Contractor is working with subcontractors (ManTech and 1901 [the Service Now Developer]) to establish the data fields needed to satisfy the Software Policy.
 - The Contractor's team will create fields in the Service Now Software Asset Module that will allow for the capture of inventory data.
 - Current Fields:
 - Order Number
 - Order Date
 - Requestor
 - Card Holder
 - Card Holder Org.
 - QTY
 - Unit Cost
 - Description
 - Control Point Categories
 - Expenditure Type
 - Account
 - Transaction Date
1. Needed Fields:
 - Computer Asset Tag (system software will be installed on)
 - Manufacturer
 - Software Title
 - Valid Through Date
 2. The Contractor's ITSD will be tracking all Software Purchases including P-Card, Purchase Order and Subcontract, in a Software Asset Management (SAM) System

to ensure that JPL's use of Software is covered by the Contractor's entitlements to use the software.

- The Contractor is working with subcontractors (ManTech and 1901) and its Acquisition organization to determine how to best transmit PO and P-Card software purchase information into the SAM.
- Software as a Service (SaaS) that stores any Contractor data in a Cloud will go through a vetting process with the provider which ensures data is stored in a Fed Ramp Certified data center that meets CyberSecurity reporting requirements. Access to SaaS will require using the Contractor's Single Sign On.
- Strategy will extend to Free and Open and Trial Software. The Contractor will work with NASA to evaluate FOSS and Trial Software.

Schedule Status:

The Contractor has completed development of the SAMf module in the Service Now Sandbox. Testing and review of Stories has been completed.

All software included in the Service Now Catalog will be included in the initial Production module. As of May 2020, the Contractor has started adding new software purchases and migrating enterprise purchases. A full capture of all software could take a year to coincide with annual renewals.

4) Resources

The Contractor anticipates engaging the support of subcontractors to support a portion of the work described herein. In doing so, the Contractor will provide the maximum practicable opportunities to Small Business Concerns.

5) Surveillance Performance Indicators

Performance will be observed through the Contractor's implementation of this IP, reporting of schedule and activities found in Sections 3 and 6, and associated interaction with NASA. The Contractor will continue to participate in NASA's SLMS workgroup. All Contractor programs, plans, procedures, policies, and any guidance/directives are subject to periodic surveillance and audit by the Government. Surveillance will be evidenced by the Contractor performing the activities in this Plan, producing associated products, conducting reviews, performing assessments, reporting, and other aspects of this Plan.

6) Schedule

Action	Due Date
Software Asset management module for Service Now	May 31, 2020 <i>Completed</i>
Software Inventory Assessment	June 30, 2020 <i>Completed</i>
Software Acquisition Governance Team	September 30, 2020

Procedure and Governance Development for Software License Management Lifecycle	September 30, 2020
Data Migration into new system on rolling basis	May 31, 2021

Office of Chief Information Officer

External Websites Implementation Plan

Directive Information

NASA Responsible Office: Office of Chief Information Officer

Introduction:

In order to ensure compliance with Prime Contract No. 80NM0018D0004 (the Contract), the Contractor's Chief Information Officer (CIO) shall provide oversight to all website content developed and maintained by the Contractor, in accordance with the Statement of Work set forth in Section C-1 of the Contract. The Contractor is required to use the NASA.gov web portal for web hosting when appropriate. The Contractor may host some sites outside NASA's web hosting service when a different information architecture or technical capability is needed that is not provided by the existing NASA web portal, in accordance with the strategy set forth in this Plan. NASA.gov websites hosted outside of the NASA.gov portal shall also follow the requirements listed in the Contract. Pursuant to the Information Technology Transition Plan, the focus of this Implementation Plan (the Plan) is to document the strategy for compliance with the May 15, 2019, Memorandum from the NASA Administrator addressing the Web Modernization effort and the 21st Century Integrated Digital Experience Act (IDEA), for websites managed by the Contractor that fall within the scope of this Memorandum.

In support of this work, the Contractor:

- Will establish a new process for creation of external websites by September 30, 2020
- Has worked on developing governance control over website content
 - New JPL Rules expected September 30, 2020
- Has reduced footprint by 20%

Implementation Strategy

- a) Consistent with the directives outlined in the NASA Administrator's May 15, 2019, Memorandum addressing the Web Modernization effort and the 21st Century Integrated Digital Experience Act (IDEA), the Contractor fulfills requirements for websites managed by the Contractor that fall within the scope of the Web Modernization effort and the 21st Century Integrated Digital Experience Act Memorandum and IDEA.
 - i) The Contractor is participating in the NASA OCIO Website Policy Working Group. NASA has established the NASA Web Modernization Team (NWMT) as an Agency working group to determine how NASA, as an Agency, will implement the 21st Century Integrated Digital Experiences Act (IDEA) as well as the NASA Administrator's memorandum concerning the same topic. A copy of the Administrator's Memo is included as Appendix A.

- ii) For sites that need to be hosted externally, new sites will be addressed per NWMT process. Existing websites will be reviewed through NWMT processes and documented.
- iii) The Contractor's Information and Technology Solutions Directorate (formerly known as OCIO) will assess all recommended actions from the NWMT within 30 days of receipt. The Contractor will respond through NMO with its recommended action or approach for NASA's consideration. In the event a timeline is included as part of the recommended action and the timeline is sooner than 30 days, the Contractor will make its best effort to expedite its response.

Surveillance Performance Indicators

- b) Every 6 months, after initial submittal of the External Website Governance Implementation Plan (IP), the Contractor will submit a status update through the NMO, culminating with the completion of the final recommendation(s) from the NWMT. The status update will identify all actions from the NWMT and how the Contractor plans to implement or has implemented the actions at JPL. If the actions have not been implemented, the process to do so along with a schedule for compliance will be provided.

Project Schedule

Action	Due Date	Status
NWMT Recommendation: Employee-Only Sites	April 20, 2020	Completed
NWMT Recommendation: Eliminate unknown (404 of 403 errors) sites as appropriate	April 20 2020	Completed
NWMT Recommendation: Vanity Sites	June 30, 2020	Completed
NWMT Recommendation: Login Website Audit	June 30, 2020	Completed initial audit. The Contractor completed the Login Website Audit and is developing a strategy to complete all required actions, including the development and launch of a communication

		plan. We anticipate completion of all required actions by end of calendar year 2020.
Establishment of New Process for External Websites Creation	September 30, 2020	In progress
NWMT Recommendation: Redirect Groups of Related Sites to a Single URL	September 30, 2020 Address 75% of sites with aliases and redirects and provide a strategy for addressing 100% of sites.	In progress
Formalize Governance Control through Publication of JPL Rules	September 30, 2020	In progress
Status Update	Every 6-months	Ongoing
Assess NWMT Recommended Actions and Respond with the Contractor's Recommended Approach for NASA's Consideration	Within 30-days of receipt	Ongoing

Appendix A: NASA Administrator's Memorandum

Subject: Web Modernization and Enhanced Security Protocols

National Aeronautics and
Space Administration
Office of the Administrator
Washington, DC 20546-0001



May 15, 2019

TO: NASA Workforce
FROM: Administrator
SUBJECT: Web Site Modernization and Enhanced Security Protocols

Every day we communicate NASA's life-changing accomplishments in science, exploration, and discovery. As an Agency, we have much to be proud of – our content is compelling, visually appealing, and reaches millions of viewers around the globe, making us one of the most popular brands on the planet. Yet, our online and strategic communications efforts have not evolved at a speed that appropriately protects our Agency's assets or best represents our brand.

Currently there are an estimated 3,000 public-facing NASA Web sites, yet the top 10 sites receive 80 percent of all Web traffic. Additionally, some NASA partners operate Web sites on our behalf outside of the Agency, creating redundancy and accumulating unnecessary costs. Not only does this duplication of information cause confusion, each Web site provides potential access for a cyber-attack on NASA's assets.

The shutdown earlier this year gave us a clear view of the cyber vulnerabilities inherent in operating thousands of Web sites. We need to take steps to protect our resources in a hostile cyber landscape, examine our digital footprint, reduce costs, and maximize the effectiveness of communications efforts. In addition to security risk, multiple sites dilute our effectiveness in communicating key messages about our missions.

This effort to reduce the number of public-facing Web sites will also enable NASA to move toward full compliance with the 21st Century Integrated Digital Experience Act (IDEA). Signed into law on Dec. 20, 2018, the Act requires agencies to exercise governance over their Web sites and ensure legacy Web sites are regularly reviewed, eliminated, and consolidated.

ACTION:

I am calling for a full modernization of NASA's digital presence to best reflect the priorities and activities of the Agency in this new era of science, discovery, and exploration. To accomplish that we will:

1) Create a team to evaluate and consolidate Web sites

I have asked the Associate Administrator for Communications (OCOM), Bettina Inclán, and the Chief Information Officer (OCIO), Renee Wynn, to do a full review of NASA's Web

footprint and digital presence. They are tasked with improving these resources for the entire Agency, making communications more effective, strengthening our technological and cyber security capabilities, while reducing costs for the Agency. Their top objective is to create a process to consolidate NASA Web sites and help lead a redesign of NASA.gov. I expect this effort to result in an enhanced cyber posture and an improved focus for communicating our messages.

Bettina and Renee will assemble a team to evaluate all of NASA's Web sites and provide a plan for consolidation across the Agency. The team will immediately review the entire Agency's digital footprint that will include universities and other affiliated Web sites. They will follow up with more specific plans to address the ongoing cyber threats and how OCOM and OCIO can best work together to counter these issues, maximize resources, and provide a better platform to communicate NASA's story.

2) Comply with the IDEA Act

The deadline for all newly created Web sites and digital services to comply with the IDEA Act is **June 18, 2019**. Going forward, all Government Web sites must have a consistent appearance and not overlap or duplicate existing sites and services. The law also calls for an increase in analytics and metrics.

3) Enact a moratorium on new Web sites

In order to meet these goals, effective immediately, there is an indefinite freeze on creating any and all new NASA Web sites. This includes programs, projects, Centers, Mission Directorates and institutions creating Web sites in the nasa.gov domain, and contractors creating sites in the *.edu, *.org or any and all other domains.

4) Web site redesign

NASA.gov needs a refresh. For many of our NASA storytellers and creative communicators, the resources on this aging design limit their possibilities and ingenuity. Because of this, and more, NASA.gov will undergo a major redesign in 2019. A new NASA.gov will allow for more compelling content, better design, and additional innovative opportunities and stronger cyber security features.

In collaboration with current site owners, the redesign of NASA.gov will result in the development of a new and expanded suite of site templates, tools, and features that will integrate content from other NASA sites into the Agency's enterprise Web site as part of this consolidation process. The redesign will include important existing infrastructure and include Google Analytics metrics (a requirement for all Federal Web sites), an approved security plan, scalable bandwidth, a content management system, 508 compliance, and a responsive design for mobile devices.

Moving forward, resources should focus on content and protecting NASA from cyber incidents. Visitors to the NASA home page should easily understand and see the breadth of NASA's mission and benefits to society. The goal is to consolidate all NASA content intended for the public under one Web site, www.nasa.gov. As always, this enterprise site is a service provided to the entire Agency.

intended for the public under one Web site, www.nasa.gov. As always, this enterprise site is a service provided to the entire Agency.

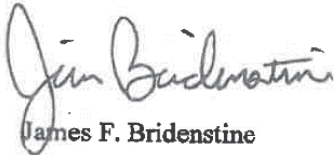
The new NASA.gov will be the primary site for Agency news, in-depth reference information on missions, and other topics intended for external audiences. Moving compelling content from separate subdomain Web sites to NASA.gov will be encouraged, and for some content, required.

BUILDING THE TEAM:

If you or any members of your team want to provide feedback or would like to participate in this process, please reach out to Bettina and Renee.

We look forward to working with you to protect NASA assets and help modernize the digital experience for the public and our partners. This is an exciting opportunity to refresh and modernize NASA's digital presence and ensure we have the tools that best represent the NASA brand. With your support, this effort can have a positive and powerful impact in expanding NASA's reach, highlighting the good work being done by our NASA team and improve our cyber security.

Thank you in advance for working together to keep NASA's assets secure and ensuring continued success in communicating NASA's story.



James F. Bridenstine

(Mod 4)

Office of Strategic Infrastructure

Aircraft Operations Implementation Plan

Directive Information

NPR 7900.3, Aircraft Operations Management

[NASA Responsible Office:](#)

Office of Strategic Infrastructure – Aircraft Management Division

1.0 Purpose

The NASA Aircraft Management Division (AMD) is operated within the NASA Office of Strategic Infrastructure (OSI). Armstrong Flight Research Center (AFRC) has been designated by AMD to provide the Contractor with direction, oversight, surveillance and approval, with respect to the Contractor's implementation of NPR 7900.3, subject to the requirements and limitations defined in the Contract.

This Implementation Plan provides a description of how the intent of the requirements of NPR 7900.3 for aircraft operations and Airworthiness and Flight Safety Reviews are accomplished by the Contractor in the performance of authorized work, that may include the operation of any NASA aircraft¹, Small Unmanned Aircraft System (sUAS) or Contractor subcontracted aircraft (commonly referred to as commercial aviation services (CAS))¹.

Further details associated with the processes, procedures, roles, and charters related to the implementation of NPR 7900.3 are in the Contractor's internal procedures.

2.0 Overview

The coordination responsibility for ensuring adherence to the intent of both requirements in NPR 7900.3 and the associated AFRC processes for aircraft operations and Airworthiness and Flight Safety Reviews falls to the Contractor's Facilities and Logistics Division. These responsibilities include but are not be limited to:

- Developing and maintaining policies and practices that describe how the Contractor will, related to aircraft operation, carry out the NASA Requirements specified in the Prime Contract.
- Coordinating and providing point-of-contact focus for the processes, specifications, rules, best practices, etc. necessary for the development, integration, and operations of the aircraft and airborne payloads and assisting the NASA airworthiness and safety of flight processes.
- Ensuring that activities are implemented in accordance with the requirements that are incorporated into the Prime Contract as described in the Contractor's internal procedures.

¹ All NASA and CAS aircraft are designated public aircraft and as such NASA shall maintain operational control.

- Establishing an atmosphere of openness and collaboration with NASA, including periodically reporting performance metrics to the NASA Management Office (NMO) and the NASA Aircraft Management Division (AMD).
- Interfacing with the NASA Management Office (NMO) Contracting Officer Representative (COR) and the NMO Contracting Officer for Aircraft Operations. The interface relationship between the Contractor's management, NMO, AFRC and the other elements is illustrated in Figure 1.

The Contractor will ensure that its operating policies and procedures with respect to its airborne payloads and aircraft programs are consistent with the overall intent of this NPR as detailed herein, and will work with NASA to tailor those requirements as needed for the unique needs of the Contractor. In the absence of standards directed by the NPR, the Contractor's policies and procedures may be updated with aviation industry standard or best practice as mutually agreed upon by the Contractor and NASA.

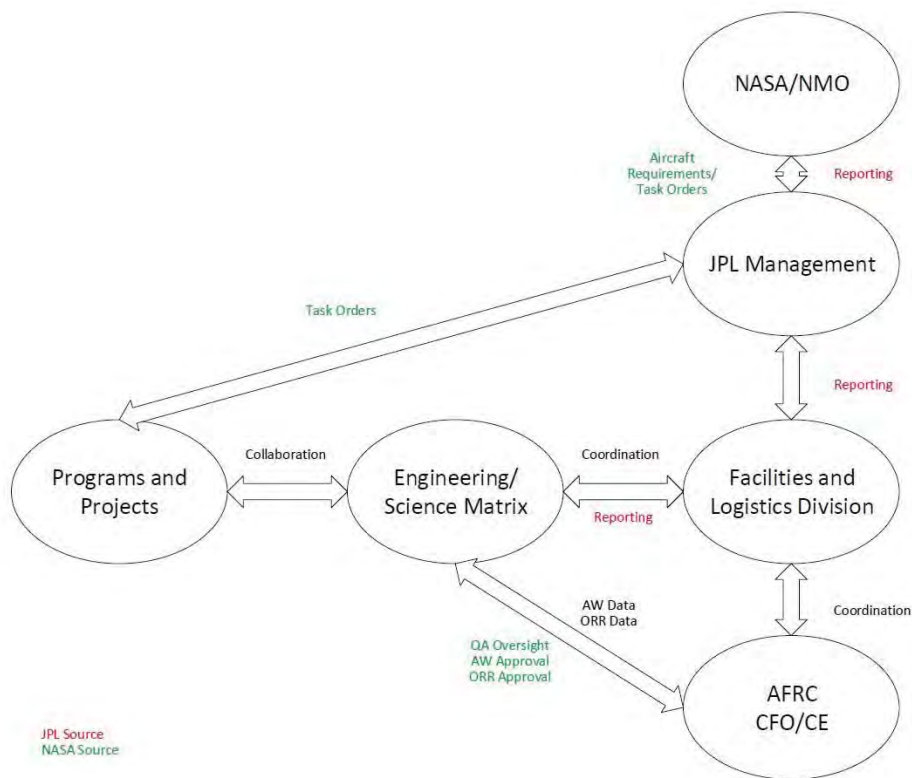


Figure 1. NASA and Contractor Functional Relationship for Aircraft Operations at JPL

Aircraft Operations performed by the Contractor encompasses multiple Divisions within the Contractor's operational structure. As mentioned, the Facilities and Logistics Division is responsible for guidance to Contractor personnel engaging in work that requires aircraft services, either NASA operated, NASA leased, chartered or other Contractor acquired aircraft services. The Contractor's Acquisition Division is responsible for any subcontracted activity.

Safety and mission assurance requirements levied on the Contractor in the Prime Contract is the responsibility of the Contractor's Office of Safety and Mission Success (OSMS). Compliance to NASA requirements related to safety and mission assurance or inspection will be carried out in accordance with the "Office of Safety and Mission Assurance – Technical Authority and NASA Directive Implementation Plan (OSMA IP)" as incorporated into the Prime Contract. Compliance to airborne quality assurance standards will be carried out in accordance with the Contractor processes and procedures which are based on the requirements in the Prime Contract. In the event that there are conflicting requirements between safety requirements in NPR 7900.3 and the above stated OSMA or any other IP, that impact the airworthiness of an aircraft or payload, Federal Acquisition Regulation (48 CFR CHAPTER 1) 52.215-8 "Order of Precedence—Uniform Contract Format" will be utilized. It is understood that ongoing conversations between NASA and the Contractor will occur in the event of any conflict in requirements.

Occupational health and safety requirements levied in the Prime Contract will be carried out in accordance with the Office of the Chief Health & Medical Officer Implementation Plan (OCHMO IP).

3.0 Contractor's Internal Procedures

The Contractor's internal procedures capture policies, processes, best practices, and procedures describing how the Contractor implements its processes and requirements, including requirements that are flowed through the Prime Contract.

The Contractor's internal processes, procedures, and documentation delivered to employees in various mediums are updated to reflect new/updated NASA policies that are accepted into the Prime Contract. Additionally, updates of the Contractor's instructional materials and guidance specific to certain subject matter, and incorporation of lessons learned may also trigger an update of processes, procedures, guidance documents and training materials. The Contractor will provide the government the opportunity to review and propose comments on any Contractor processes, procedures and/or plans including JPL Rules, including any suggested changes to those processes/plans that demonstrate how the Contractor complies with the intent of NPR 7900.3, and the NASA AFRC airworthiness and flight safety review and approval process. The Contractor's documentation of these processes include addressing quality assurance practices, inspections, hazard analysis processes and will be among the documentation available for the Government's review.

4.0 Description of Contractor's Aircraft Payloads and Platforms Practices

The contractor's aircraft payload and platform practices shall be described in a JPL Airborne Guidebook and a Small UAS (sUAS) Guidebook, which provide overarching practices, policies, processes and procedures for the development and deployment of airborne instruments and systems. These guidebooks shall be used by the contractor for aircraft and sUAS operations and required use of them will be reflected in contractor's internal command media.

Specifically, the Guidance manuals will also address, for aircraft payloads and platforms including sUAS:

- The Contractor's facilitation of NASA's assessment for airworthiness and flight safety of the payload and aircraft.

- Quality assurance, hazard and risk mitigation processes.
- Information Technology (IT) Cybersecurity requirements as detailed in the IT Transition Plan and subsequent IT Implementation Plan(s).
- Activities and processes for CAS acquisition and required notifications/deliverables/approvals as agreed to with the government.
- The Contractor's subcontracting flow down process of contract clauses and NASA requirements to a subcontracted CAS operator, as dictated by NASA. The process will describe the handling of Additional General Provisions (AGPs) in Subcontracts and CAS deliverables.
- Compliance to the intent of the OCHMO requirements for aviation flight personnel as detailed in the OCHMO Implementation Plan.

The contractor's quality assurance processes are described in published procedures for Quality Assurance and Quality Control. These procedures describe the necessary QA and QC for Contractor design, build, repair, and modification for aircraft/airborne payloads.

5.0 Roles and Responsibilities

The following are some of the specific responsibilities for those implementing their role under the requirement. Details of these roles are contained within the Contractor's internal procedures. Figure 2 shows a typical project organization chart where use of an aircraft or sUAS will be utilized. The Contractor is structured as a matrix organization and the various different offices and divisions illustrated in Figure 2 work together to perform all functions required where airborne platforms are concerned.

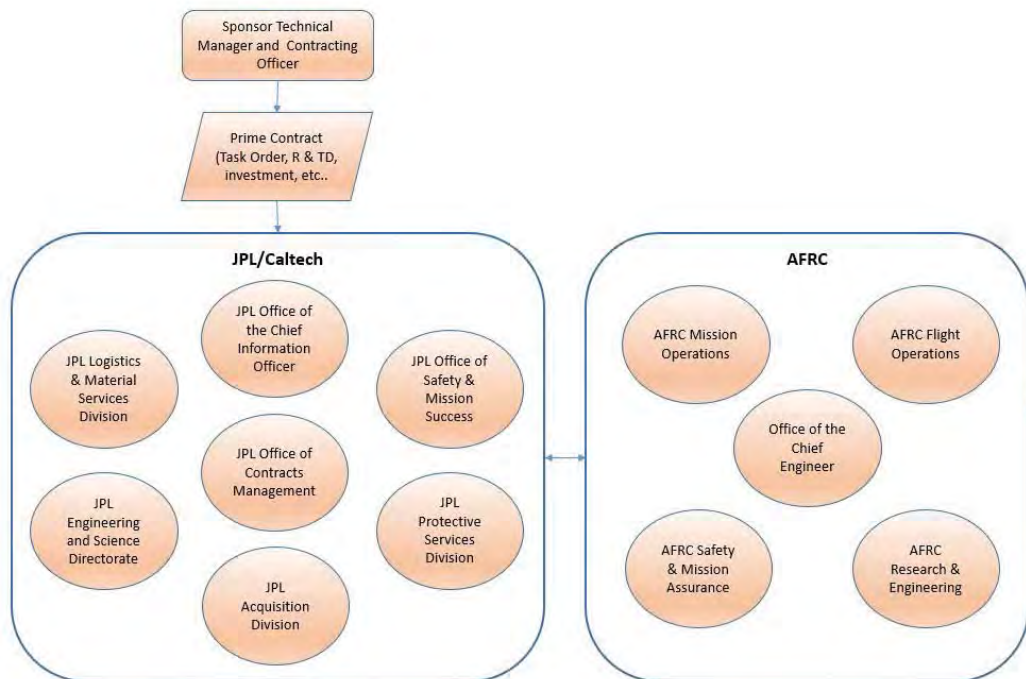


Figure 2. JPL/Caltech and AFRC Organizational Roles

5.1 JPL Facilities and Logistics Division

This Division is responsible for the coordination of leasing, chartering, or renting any aircraft or aircraft services, including sUAS for research or technology demonstration. This Division serves as the primary point of contact for NASA's oversight center as designated by the Prime Contract in "H-50 Aircraft Operations". This Division works closely with all offices and divisions to ensure that the process is followed and should be the primary conduit for requests and approvals internal to the Contractor.

5.2 JPL Engineering and Science Directorate (ESD)

As described above, the Contractor manages the performance of work via a matrix organization for which the science and engineering expertise is drawn from this directorate. The personnel assigned to work on airborne related tasks belong to various specialized divisions within this directorate, such as instruments or autonomous systems. It is understood that the Contractor will staff authorized work with qualified personnel typically from this Directorate. The individuals will serve as the manager of the task through final delivery and they will work closely with logistics, safety, OCIO, OCM and Acquisition as a team to ensure compliance with the process and the policy requirements. To facilitate the airworthiness and flight safety review process, this Directorate, in coordination with the Office of the Chief Engineer, shall establish processes and procedures for overall engineering oversight to identify and review engineering analysis and limitations, to ensure safe operations, to provide configuration management of the payload, and to ensure that objectives satisfy programmatic requirements. OSMA provides oversight for the management of hazards and risks associated with programs.

5.3 JPL Office of Safety and Mission Success

The Office of Safety and Mission Success is comprised of multiple roles that support JPL's missions. These various disciplines are resources available on an as-needed basis for aircraft tasks with the goal of ensuring airworthiness, safety of employees and the public, protection of the environment and preventing damage to property/facility.

5.3.1 Occupational Safety Program Office

The Occupational Safety Program Office (OSPO) develops, manages and coordinates the Contractor's occupational safety, industrial hygiene/health, hazardous materials, and health physics (ionizing and non-ionizing radiation safety programs). OSPO focuses on people, institutional safety practices, external regulatory agency requirements, safety training and safety equipment. OSPO provides independent safety and health oversight of all Contract organizations at JPL/Caltech.

OSPO promulgates safety policies and procedures based on agency standards/regulations and the Prime Contract with NASA. OSPO interfaces with, develops and maintains documentation/recordkeeping as required by NASA and other Federal, State, and local government agencies. OSPO is the ultimate authority on regulatory requirements and regulations for activities pertaining to employee safety and health as it relates to the performance of airborne or sUAS work.

5.3.2 Quality Assurance Office

Quality Assurance (QA) collaborates with all organizations that design, build, assemble, test, deliver, and operate missions in support of NASA authorized work. This office implements JPL's quality assurance process, and supports the objectives of the Mission Assurance Office by ensuring that critical JPL hardware and software products meet the required levels of quality for airworthiness, and safety.

5.3.3 Reliability Engineering and Mission Environmental Assurance

This office is responsible for providing independent verification and validation of hardware reliability, end-of-life capability and environmental capability through concurrent analysis, review and test assessment. This office analyzes system and subsystem level designs and defines their testing programs to ensure reliable operation in the designated environment over the mission lifetime as detailed in the approved flight test plan.

5.3.4 Environmental Affairs Program Office

The primary function of this office is to ensure that the Contractor is in compliance with all applicable Federal, State, local and Prime Contract environmental protection requirements.

In addition, EAPO provides leadership in directing the Contractor toward environmentally sound practices and implements the Contractor's Environmental Management Program. To accomplish this, a major task of the organization is to inform and advise the institution on current and potential regulations that impact, or may impact their programs and operations. EAPO also develops and implements policies and procedures based on the Prime Contract with NASA. EAPO interfaces with, develops and maintains documentation/record keeping as required by NSAA and other Federal, State, and local government agencies.

EAPO is the ultimate authority on regulatory requirements for issues pertaining to preservation and protection of the environment for all the Contractor's tasks and the Contractor's managed locations.

5.3.5 Systems Safety

The System Safety Program Office provides technical expertise in the identification and mitigation of hazards associated with design and ensures compliance with safety requirements. For aircraft tasks, the hazard analysis is conducted to assure that hazards from a payload (i.e. a fault) be mitigated and/or isolated such that they cannot injure personnel or propagate to the host platform.

5.4 JPL Acquisition Division

The primary focus of this organization is to acquire goods and/or services in support of the Laboratory's tasks, projects, programs, and institutional needs including commercial aviation services, sUAS purchases and related support. Specific functions within the Acquisition Division include:

- Managing the Acquisition process from planning to source selection and subcontract performance
- Coordination with all key representatives of a project team to ensure their requirements, and any flow downs, are effectively included in their subcontract agreement
- Monitoring and evaluating supplier performance

- Assuring that the acquisition processes and procedures are compliant with Prime Contract and Caltech requirements, as well as applicable Federal, State and local laws and regulations

The Acquisition process and the resulting subcontracts are a binding agreement between the Contractor and the subcontractor. Because NASA lacks privity of contract with the Contractor's subcontractor, requirements for access, inspection, oversight, or other interaction between NASA and the selected subcontractor must be flowed through the subcontract terms and conditions, statement of work, additional general provisions or any mandatory qualifications.

5.5 JPL Office of the Chief Information Officer

The Information Technology Directorate is responsible for architecting, engineering, managing, implementing, provisioning, operating and supporting information technology and the processes, policies, guidelines, and procedures associated with it. These responsibilities include:

- Establishing, engineering, implementation, and control of appropriate processes, policies, procedures, and tools in support of IT security, ensuring JPL is in compliance with applicable federal and NASA requirements and aviation industry best practices
- Architecting, developing, operating, and communicating IT services for JPL/Caltech that enable the success of projects and technology tasks, engineers and scientists, and support activities and personnel
- Establishing a continuous monitoring program to identify and manage sUAS cybersecurity risks via IT requirements for sUAS in accordance with the IT Transition Plan and any IT Implementation Plan(s).
- Establishing a sUAS procurement process that will include Supply Chain Resource Management (SCRM) in accordance with the Prime Contract.
- Manage sUAS inventory in the cyber risk management system (RISCS) in accordance with the IT Transition Plan and any IT Implementation Plan(s).

5.6 JPL Office of Contracts Management

The Office of Contracts Management (OCM) serves as the Laboratory's primary point of contact between NASA, Caltech, and Laboratory personnel on all matters relating to administration of the Prime Contract. This includes the planning, negotiation, execution and management of Task Orders, memoranda of understanding, use of NASA Facilities and all other aspects of the administration of the Prime Contract.

OCM will serve as the conduit between the NASA Management Office personnel on matters that relate to this implementation plan, release of Contractor records such as guidance manuals or other procedures, and interfaces with other JPL/Caltech organizations as needed.

All roles play a part in the performance of work at the Laboratory and will work together to meet the expectations of NASA and conformance with the terms and conditions of the Prime Contract including this Implementation Plan.

6.0 Declaration of Intent

- 6.1 Consistent with the Article in the Contract entitled “Applicability of Lower-Tier Documents” and except as provided below, the Contractor fulfills the sections of NPR 7900.3 that apply to center personnel, except for inherently governmental functions, as defined in FAR Subpart 7.5 and this Contract.
- 6.2 The Contractor will ensure it has a robust process to flow-down into its internal procedures the requirements of the NASA NPR 7900.3 as listed in Attachment A. A mapping of NASA’s requirements to JPL’s documents is included below.
- 6.3 The Contractor does not have an aircraft capability, it is acknowledged that the Contractor also has no delegated authority to waive requirements that are directed by NASA as flow-downs to the Contractor’s Subcontractor as detailed in section 5.4 of this implementation plan. Requests for waivers of Subcontractor requirements will be dispositioned by the Contractor obtaining NASA guidance and approval of the waiver request. For individual case-by-case requests for relief on requirements that the Contractor has operational capability for, the Contractor will follow its internal waiver process, as documented in the Contractor’s internal procedures and in concert with NASA.
- 6.4 NASA may utilize the IAOP Review and other audits to verify adequate flow-down to the Contractor’s internal procedures and/or verify compliance with Contract requirements to include subcontractors conducting CAS operations. The Contractor will provide timely response and address non-compliances. The Contractor shall ensure that the government has access to the subcontractor for the purposes of audit, evaluation, and consultation as required by the Government in consultation with the Contractor.
- 6.5 The contractor will provide the government with access to all aircraft and airborne related documents for concurrence and review.
- 6.6 The Contractor and NASA, with the goal of continuously assessing the Contractor’s overall compliance with requirements, will conduct regular discussions to identify critical aspects of the NASA Aircraft Operations Management documents called out in Attachment A of this Implementation Plan and any lower-tier documents called out therein that the parties agree are critical. The Contractor will determine if the additionally identified critical aspects or lower-tier documents will be addressed in its internal procedures or if a NASA waiver will be required.

7.0 Surveillance Performance Indicators

Performance will be observed by NASA through the Contractor’s implementation of this IP and associated interaction with NASA, including the NASA Aircraft Management Division, NASA Management Office and the designated NASA Center for JPL/Caltech Oversight. All Contractor programs, plans, procedures, policies and any guidance/directives are subject to periodic surveillance and audit by the Government. The Contractor will deliver, in Contractor format a not-to-exceed two page assessment of the yearly aviation activities.

Attachment A to IP

Mapping of NASA NPR 7900.3 Requirements to JPL's Documents

(Note: "DocID" below refers to JPL Rules Document ID Number)

NASA Document & Title	NASA 7900.3 Requirement Reference	JPL Documents that Address the Requirements within the NASA Document
7900.3 Aircraft Operations Management	This directive establishes requirements, responsibilities, and procedures that will assist NASA Centers and other locations operating NASA aircraft to create local policies and procedures for the management of NASA aircraft resources, and related matters.	<ul style="list-style-type: none">• JPL Airborne Guidebook• Unmanned Aerial Systems (UAS) User Guidebook• JPL DocID 78753 Waiver of Requirements• JPL Acquisition Instructions (AIs)• JPL DocID 78836 Small Unmanned Aircraft Systems, Acquisition to Flight• JPL DocID 60993 Utilization of Charter Flights for Research and Development, Testing, and Experiments

Office of Strategic Infrastructure

Implementation Plan

Directive Information

NPD and NPRs

- 1) NPD 8500.1 NASA Environmental Management
- 2) NPR 8510.1 NASA Cultural Resources Management
- 3) NPR 8530.1 NASA Sustainable Acquisition
- 4) NPR 8553.1 NASA Environmental Management System
- 5) NPR 8570.1 NASA Energy Management Program
- 6) NPR 8580.1 Implementing the National Environmental Policy Act and Executive Order 12114
- 7) NPR 8590.1 Environmental Compliance and Restoration Program

NASA Responsible Office

Office of Strategic Infrastructure

Declaration and Exceptions to Requirements

1) Declaration of intent

- a) Consistent with the Article in the Contract entitled “Applicability of Lower-Tier Documents” and except as provided below, this implementation plan is deemed to satisfy the Contractor’s requirements to manage the environmental management program at the Jet Propulsion Laboratory consistent with NPD 8500.1, NPR 8510.1, NPR 8530.1, NPR 8553.1, NPR 8570.1, NPR 8580.1, NPR 8590.1. It is the intent of the Contractor to use established Contractor procedures to support the agency’s compliance with NASA NEPA regulations described at 14CFR1216. The Contractor is explicitly excepted from performing any inherently governmental functions, as defined in FAR Subpart 7.5 and this Contract, in connection with carrying out the activities covered under this implementation plan.

2) Description of the Contractor’s exceptions, rationale, and risk assessment for not complying:

- a) Regarding NPD 8500.1 “NASA Environmental Management”
 - i) Exception: The functional reviews referenced through the NPD are those performed by NASA.
 - (1) Rationale: To distinguish between NASA led assessments and the Contractor’s own internal assessments.
 - (2) Risk Assessment: There is no risk to NASA.
- b) Regarding NPR 8510.1 “NASA Cultural Resources Management”
 - i) Exception: No exceptions

- c) Regarding NPR 8530.1 “NASA Sustainable Acquisition”
 - i) Exception: The approval authority for waivers contemplated in the NPR is the Manager of the Contractor’s Environmental Affairs Program Office.
 - (1) Rationale: This exception was initiated by NASA and NASA recognizes the Center Director in the NPR is the Contractor’s Center Director.
 - (2) Risk Assessment: There is no risk to NASA since NASA will be able to evaluate the program as set forth in Section entitled Program Review, of the NPR.
- d) Regarding NPR 8553.1 “NASA Environmental Management System”
 - i) Exception: All Center-led reviews referenced in the NPR are Contractor self-assessments.
 - (1) Rationale: To remain consistent with “Property Rights in Records” language in the Contract about self-assessments.
 - (2) Risk Assessment: There is no risk to NASA; the Contractor’s philosophy to keeping contractor self-assessment internal is to ensure that self-assessments are richer and more meaningful.
 - ii) Exception: The Contractor’s internal procedures (which capture policies, processes, best practices, and procedures) on environmental compliance policy shall not be made available to the public.
 - (1) Rationale: Release of Contractor’s internal procedures on environmental compliance policy would disclose the Contractor’s proprietary information.
 - (2) Risk Assessment: There is no risk to NASA since NASA will be conducting their own functional reviews of the Contractor.
- e) Regarding NPR 8570.1 “NASA Energy Management Program”
 - i) Exception: No exceptions
- f) Regarding NPR 8580.1 “Implementing the National Environmental Policy Act Management and Executive Order 12114”
 - i) Exception: The Contractor has established, and maintains, a procedure for assisting the Government with the Government’s efforts to comply with NEPA on programs, missions, and facility operations funding through the Contract.
 - (1) Rationale: The exception above is intended to ensure the Contractor’s NEPA process is reviewed for Agency consistency. It is recognized that the government retains all responsibility for NEPA compliance for all government programs, missions, operations and tasks funded through the contract and approves any documentation that is developed by the contractor to assist the government.
 - (2) Risk Assessment: There is no risk to NASA since NASA will ensure the Contractor’s NEPA process is reviewed for Agency consistency, and since ultimate responsibility for NEPA remains with NASA.
- g) Regarding NPR 8590.1 “Environmental Compliance and Restoration Program”
 - i) Exception: For the Contractor, the NASA Management Office (NMO) represents Headquarters as cognizant Center for satisfying the requirements of this NPR. As such, the NMO has the responsibilities of the Center Environmental Manager, to be fulfilled by a member of the NMO.
 - (1) Rationale: This exception was initiated by NASA.

- (2) Risk Assessment: There is no risk to NASA since NASA Management Office is currently the cognizant NASA Office for the Contractor.

Office of Safety and Mission Assurance

Technical Authority and NASA Directive Implementation Plan

Safety and Mission Assurance (SMA) Technical Authority (TA) Implementation Plan

1.0 Purpose

NASA's Safety and Mission Assurance Chief delegates to the Contractor's Laboratory Director the Technical Authority responsibilities of Center Director as defined in NPR 7120.5 and other NASA directives and standards applied to this Contract, subject to the requirements and limitations defined in the Contract.

This Implementation Plan provides a description of the Safety and Mission Assurance Technical Authority (SMA TA) at the Jet Propulsion Laboratory.

Further details associated with the processes, procedures, roles, and charters related to SMA TA are in the Contractor's internal procedures.

2.0 Overview

The Contractor's Director is responsible and accountable for Institutional Technical Authority and, when delegated, Programmatic Authority responsibilities and for the proper planning and execution of programs and projects executed by the Contractor. The checks and balances for these particular requirements are the responsibility of the Institutional Technical Authority (the Contractor's Director). The Contractor's Director has delegated the following Technical Authority roles to the Director For the Office of Safety and Mission Success (OSMS Director For):

- Develop and maintain institutional SMA policies and practices in accordance with Agency policy and standards as specified in the Prime Contract.
- Ensure that activities, both program and project, are implemented in accordance with Agency SMA policies and standards that are incorporated into the Prime Contract as described in the Contractor's internal procedures.
- Monitor, collect, and assess institutional, program, and project SMA financial and performance results.
- Establish and be responsible for the SMA processes, specifications, rules, best practices, etc. necessary to fulfill safety and programmatic mission performance requirements.
- Establish an atmosphere of openness, including periodically reporting performance metrics to the NASA Management Office (NMO) and the NASA Office of Safety and Mission Assurance (OSMA).

These responsibilities include interfacing with NMO/OSMA and further delegation of SMA TA to lower levels, as appropriate. For flight projects, the delegation of SMA TA to the Mission Assurance Managers and System Safety Engineers is documented in the Role Statements. The interface relationship between the Contractor's OSMS Director For, the other elements, and NASA OSMA and NMO is illustrated in Figure 1.

The Contractor's OSMS is comprised of three Offices: the Environmental Affairs Program Office (EAPO), the Occupational Safety Program Office (OSPO) and the Mission Assurance Office (MAO) (see Figure 2).

OSMS provides two major functions. First, OSMS provides SMA TA for SMA requirements for all NASA activities at the Jet Propulsion Laboratory either indirectly via the involvement in safeguarding personnel, facilities, other NASA property, and the environment or directly as a part of the Project/Program team. Second, OSMS provides Subject Matter Discipline Experts required to perform the technical support functions. These disciplines may reside wholly within the organization or outside the organization with direct ties to the OSMS personnel.



Figure 1. OSMS Interface Relationships

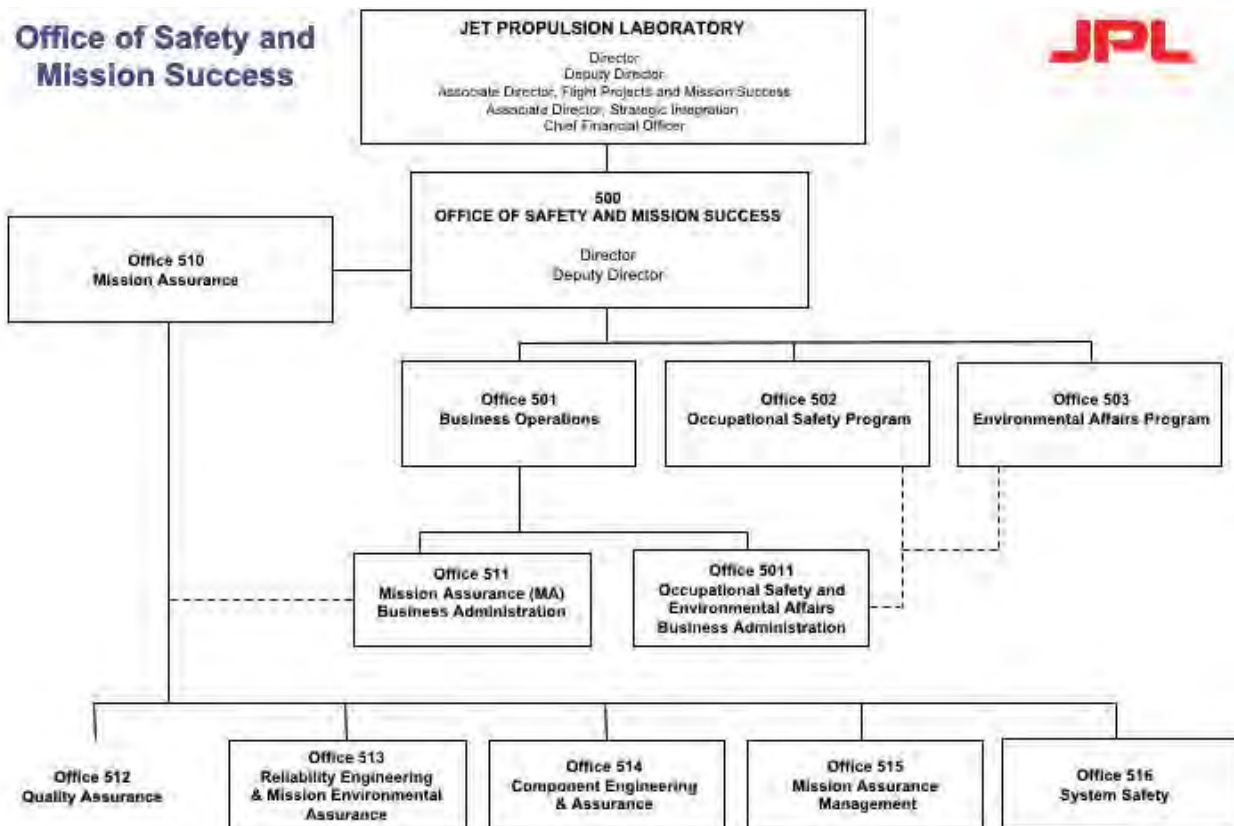


Figure 2. OSMS Functional Organization

3.0 Technical Authority Delegated to the Contractor and Those Not Delegated to the Contractor

The Contractor intends to follow the requirements and limitations set forth in the Prime Contract pertaining to OSMA policies where NASA has not delegated the TA responsibility to the Contractor (also known as “Not-Delegated” requirements) and policies where NASA has delegated the TA to the Contractor (also known as “Delegated” requirements).

4.0 Contractor’s Internal Procedures

The Contractor’s internal procedures capture policies, processes, best practices, and procedures describing how the Contractor implements its processes and requirements, including requirements that are flowed through the Prime Contract.

The Contractor’s internal SMA processes, procedures, and documentation are updated to reflect new/updated NASA policies that are accepted into the Prime Contract. Additionally, updates of the Contractor’s Flight Project Practices and Design, Verification/Validation and Operations Principles for Flight Systems, and incorporation of lessons learned may also trigger an update of SMA processes, procedures, and documentation.

5.0 Institutional EH&S Authority

The Contractor develops SMA requirements that respond to relevant NASA policies and standards, local, Federal, or State statutes and regulations and that safeguard personnel, hardware, the facilities, and the environment.

SMA requirements based on applicable legal or regulatory requirements or laws may not be waived for any reason. Project-specific SMA deviations require a waiver following the Contractor's waiver process and assessment by the Mission Assurance subject matter experts and Mission Assurance Manager.

6.0 Programmatic SMA TA

6.1 Applicability

Per NPR 7120.5, the NASA Mission Directorates in coordination with the Contractor's Program Directorates, the Project, and with inputs from the Contractor's Office of Chief Engineer and the Director for Safety and Mission Success, assign a project risk classification following the guidance of NPR 8705.4, which define the accepted mission risk, and allowable tailoring of applicable SMA requirements.

Project-specific SMA TA is provided for all NASA spaceflight projects performed under NPR 7120.5 and NPR 7120.8 and identified as Class A–D per NPR 8705.4, Risk Classification for NASA Payloads. For other NASA non-spaceflight projects, and non-NASA tasks, project SMA TA is not applicable and the Contractor will follow internal SMA practices and procedures unless specifically documented otherwise in the specific Task Order.

6.2 Flow Down

The Contractor's Director delegates the overall implementation and oversight responsibility for SMA TA to the OSMS Director For. This role is further delegated at the individual project level to the Mission Assurance Manager (MAM) and System Safety Engineer (SSE) assigned to each project. Figure 3 shows flow-down of SMA TA responsibility.

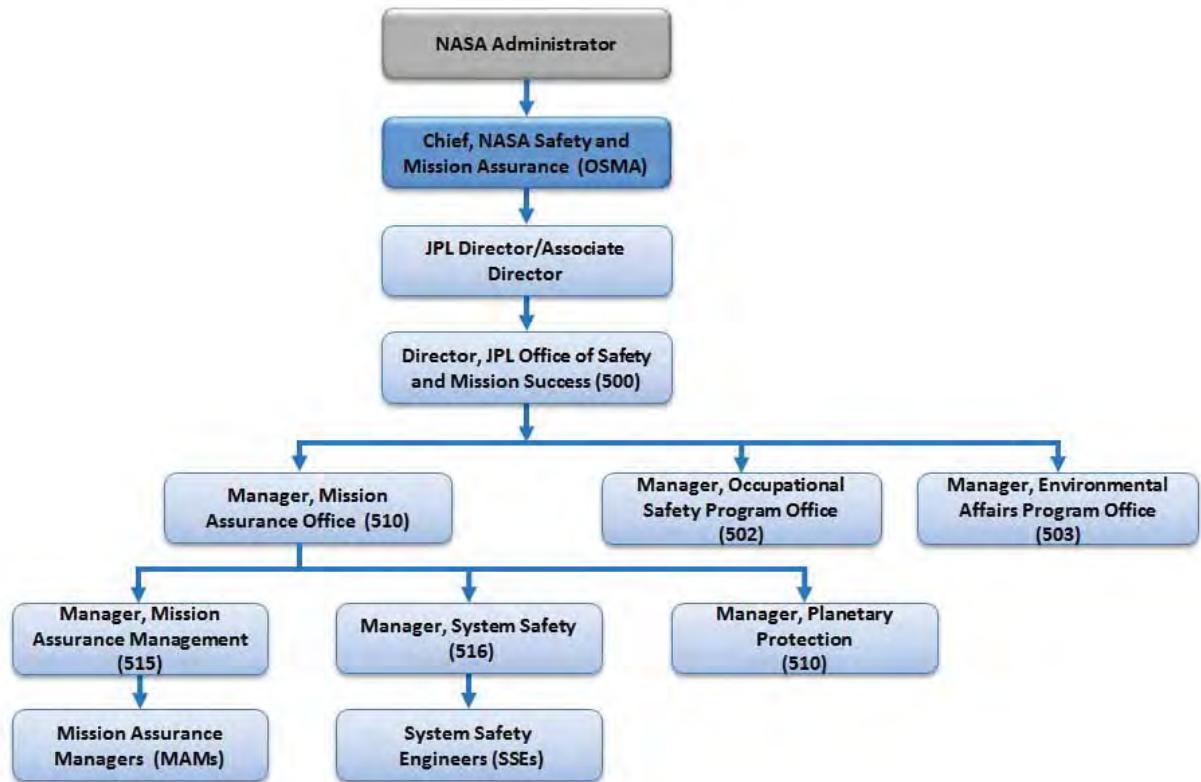


Figure 3. Technical Authority Flow Down

6.3 Roles and Responsibilities

The following are some of the specific responsibilities for those implementing their role as the SMA TA. Details of these roles are contained within the Contractor's internal procedures. Figure 4 shows a typical project organization chart.

6.3.1 Mission Assurance Manager Role at the Project System Level

Project-level SMA TAs are the project Mission Assurance Managers (MAMs) who specifically maintain technical responsibility, including SMA requirements and verification of compliance. MAMs perform the SMA TA role with authority and independence and maintain broad awareness of issues and potential problems that may be pertinent to SMA TA. They integrate and represent an independent (OSMS-centric) risk assessment for all project activities and communicate this independent assessment to both the project manager and the OSMS Director For.

Typical of a matrix organization, MAMs are assigned to a project but report independently to the Mission Assurance Office and the Director for OSMS. MAM assignments are made consistent with the formulation, development, and operations phases of the project life cycle.

6.3.2 System Safety Engineer Project Role

The System Safety organization is chartered to manage all Contractor system safety activities by developing, coordinating, and issuing system safety policies, standards, procedures, and practices and to assist and assess the Laboratory and its programs, projects, and tasks in the application of these issuances. The objective of the System Safety organization is to direct the operations of the Laboratory's system safety program to identify and eliminate health and safety hazards relative to employees, facilities, critical systems, and flight hardware.

Project-level SMA TAs are the project MAMs who specifically maintain technical responsibility, including SMA requirements and verification of compliance. System Safety Engineers (SSEs) are assigned SMA TA responsibility for the system (hardware/software) safety aspects of the project. The SSEs are assigned to a project and work as a part of the MAM's team but report independently to the Mission Assurance Office and the Director for OSMS. SSE assignments are made consistent with the formulation, development, and operations phases of the project life cycle.

6.3.3 Planetary Protection Manager Role

Technical Authority for Planetary Protection is not delegated. The Contractor's Planetary Protection Manager (PPM) utilizes tests and analyses provided by subject matter experts across the institution to assess project compliance with applicable Planetary Protection requirements and provides his/her independent assessment to OSMS, NASA's Planetary Protection Officer, and the project. The PPM is not assigned to any specific project; he/she reports independently to the Mission Assurance Office and the Director for OSMS.

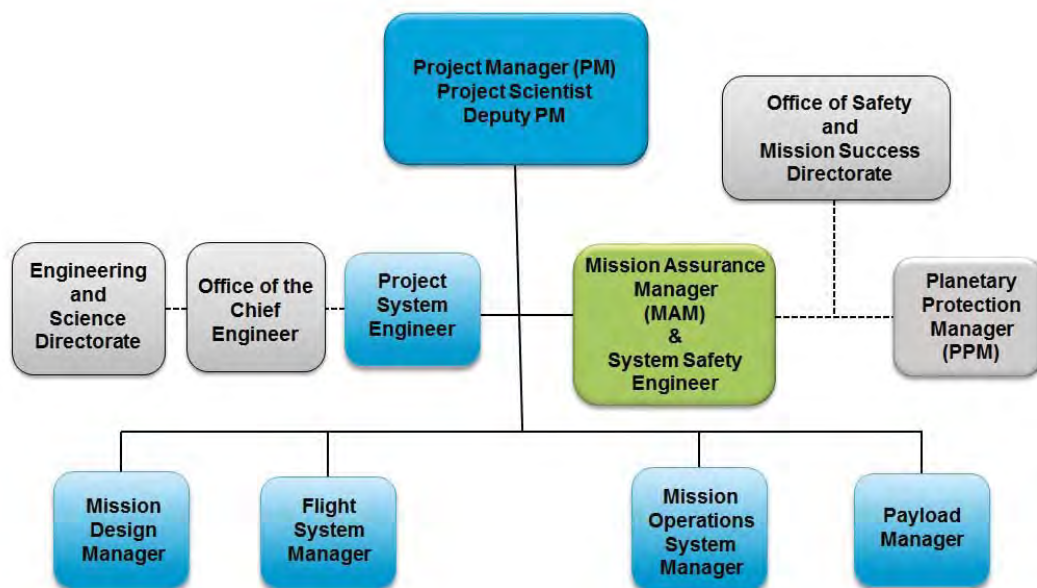


Figure 4. Typical Project Organization

7.0 Center-wide SMA TA

7.1 Applicability

Center-wide SMA TA is provided for all activities pertaining to non-spaceflight projects; and personnel, facility, and environmental safety activities at the Contractor's managed facilities.

7.2 Flow Down

The Contractor's Director delegates the overall implementation and oversight responsibility for Center-wide SMA TA to the OSMS Director. This role is further delegated to the Manager, Occupational Safety; the Manager, Environmental Affairs; and the Manager, System Safety. Figure 3 shows the reporting and communications relationship between all individuals with SMA TA responsibility. Center-wide SMA requirements are those that focus on how the Contractor does business, which are independent of the particular program or project. These requirements flow from numerous sources, including but not limited to, NASA Headquarters, and Federal or State statutes and regulations.

7.3 Roles and Responsibilities

7.3.1 System Safety Organization

The System Safety organization is chartered to manage all of the Contractor's systems safety activities by developing, coordinating, and issuing system safety policies, standards, procedures, and practices and to assist and assess the Laboratory and its programs, projects, and tasks in the application of these issuances.

The objective of the System Safety organization is to direct the operations of the Contractor's system safety program to identify and eliminate health and safety hazards relative to employees, facilities, critical systems, and flight hardware.

7.3.2 Occupational Safety Program Office

The Occupational Safety Program Office (OSPO) develops, manages, and coordinates the Contractor's occupational safety, industrial hygiene/health, hazardous materials, and health physics (ionizing and non-ionizing radiation) safety programs. OSPO focuses on people, institutional safety practices, external regulatory agency requirements, safety training, and safety equipment. OSPO provides independent safety and health oversight of all Contractor organizations at Caltech/Jet Propulsion Laboratory.

OSPO promulgates safety policies and procedures based on agency standards/regulations and the Prime Contract with NASA. OSPO interfaces with, develops, and maintains documentation/record keeping as required by NASA and other Federal, State, and local government agencies. OSPO is the ultimate authority on regulatory requirements and regulations for activities pertaining to employee safety and health.

OSPO also administers the General Fire and Electrical Safety Program and the Outdoor Laser Safety Program.

7.3.3 Environmental Affairs Program Office

The primary function of the Environmental Affairs Program Office (EAPO) is to ensure that the Contractor is in compliance with all applicable Federal, State, local, and Prime Contract environmental requirements. To do this, EAPO serves as the main point of contact with Federal, State, and local environmental regulatory agencies and NASA regarding environmental protection requirements.

In addition, EAPO provides leadership in directing the Contractor toward environmentally sound practices and implements the Contractor's Environmental Management Program. To accomplish this, a major task of the organization is to inform and advise the institution on current and potential regulations that impact, or may impact, their programs and operations. EAPO also develops and implements policies and procedures based on the Prime Contract with NASA. EAPO interfaces with, develops, and maintains documentation/record keeping as required by NASA and other Federal, State, and local government agencies.

EAPO is the ultimate authority on regulatory requirements for issues pertaining to preservation and protection of the environment for all the Contractor's tasks and the Contractor's managed locations.

8.0 Waivers

The SMA TA will review and endorse/approve or reject all requests for waivers to NASA SMA requirements as flowed through the Prime Contract and all the Contractor's SMA requirements. Any SMA requirements based on any applicable Federal, State, or local law may not be waived for any reason.

The Contractor will follow the process in NASA-STD-8709.20, and will obtain OSMA and NMO approval for any request for relief of:

- 1) Any "Non-Delegated" OSMA requirement, and
- 2) Any "Delegated" OSMA requirement that is applicable across the institution (i.e., any relief that the Contractor is taking across the entire Laboratory, as opposed to a single-instance relief).
- 3) Table 3 of the Technical Authority portion of the Prime Contract: Limitations to the Authority to Provide Relief to Delegated Requirements.

For individual case-by-case requests for relief to "Delegated" requirements, the Contractor will follow its internal waiver process, as documented in the Contractor's internal procedures.

The process depicted in Figure 5 is used to determine whether the request for relief from an OSMA requirement requires NASA OSMA/NMO approval.



Diverse views are fostered and respected in an environment of integrity and trust with no suppression or retribution. When a person disagrees with a decision or action, that individual has the opportunity to have the issue addressed through the dissenting opinion process per the Contractor's internal procedures for Handling Dissenting Opinions at the Contractor.

9

NASA Directive Programmatic and Institutional Implementation Plan

Declarations of Intent

- 1) The Contractor will ensure it has a robust process to flow-down into its internal procedures the requirements of the NASA SMA documents listed in Attachment A. A mapping of NASA OSMA's 41 documents to JPL's documents is included below.
- 2) The Contractor will apply its internal procedures to perform the contractual work involving SMA matters and will regularly keep its internal procedures updated to reflect significant changes to updates of the NASA SMA documents listed in Attachment A.
- 3) The Contractor and NASA, with the goal of continuously assessing the Contractor's overall compliance with requirements, will conduct regular discussions to identify critical aspects of the NASA SMA documents called out in Attachment A and any lower-tier documents called out therein that the parties agree are critical. The Contractor will determine if the additionally identified critical aspects or lower-tier documents will be addressed in its internal procedures or if a NASA waiver will be required.
- 4) NASA may utilize the REDAA, QAAR, IFOSA and other audits to verify adequate flow-down to the Contractor's internal procedures and/or verify compliance with Contract requirements. The Contractor will provide timely response and address noncompliances.
- 5) The Contractor will provide auditors to support a minimum of two NSC audit programs annually.

Surveillance Performance Indicators

The Contractor will provide an annual assessment not to exceed 2-pages evaluating their performance against this Implementation Plan (IP).

Performance will be observed through the Contractor's implementation of this IP and associated interaction with NASA. All Contractor programs, plans, procedures, policies, and any guidance/directives are subject to periodic surveillance and audit by the Government. Surveillance will be evidenced by the Contractor performing the activities in this IP, producing associated products, conducting reviews, performing assessments, reporting, and other aspects of this IP.

Mapping of NASA OSMA's 41 Documents to JPL's Documents

(Note: "DocID" below refers to JPL Rules Document ID Number.)

	NASA Document & Title	JPL Documents that Address the Requirements within the NASA Document
1	NASA-STD-6008 - NASA Fastener Procurement, Receiving Inspection, and Storage Practices for Spaceflight Hardware	1) DocID 58032: Flight Project Practices 2) DocID 35001: Flight Materials / Process / Fasteners / Packaging / Cabling HW Selection Guide 3) DocID 78327: Use of Quality Assurance Inspection Plans
2	NPR 8000.4 - Agency Risk Management Procedural Requirements	DocID 35507: Risk Management for JPL Projects
3	NPD 8020.7 - Biological Contamination Control for Outbound and Inbound Planetary Spacecraft	1) DocID 36232: Planetary Protection 2) DocID 58653: Ensure Planetary Protection 3) DocID 70352: Planetary Protection Engineer
4	NPR 8020.12 - Planetary Protection Provisions for Robotic Extraterrestrial Missions	1) DocID 36232: Planetary Protection 2) DocID 58653: Ensure Planetary Protection 3) DocID 70352: Planetary Protection Engineer
5	NPR 8621.1 - NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping	1) DocID 63712: Safety and Health Plan 2) DocID 44598: Mishap and Contingency Planning
6	NPD 8700. 1 - NASA Policy for Safety and Mission Success	1) DocID 38692: Office of Safety and Mission Success
7	NPR 8705.2 - Human Rating Requirements for Space Systems	N/A
8	NPR 8705.4 - Risk Classification for NASA Payloads	DocID 58032: Flight Project Practices
9	NPR 8705.5 - Technical Probabilistic Risk Assessment (PRA) Procedures for Safety And Mission Success for NASA Programs and Projects	1) DocID 58032: Flight Project Practices 2) DocID 78022: Reliability Assurance Requirements
10	NPR 8705.6 - Safety and Mission Assurance (SMA) Audits, Reviews, and Assessments	DocID 78536: SMA Technical Authority Implementation Plan

	NASA Document & Title	JPL Documents that Address the Requirements within the NASA Document
11	NASA-STD 8709.20 - Management of Safety and Mission Assurance Technical Authority (SMA TA) Requirements	DocID 78536: SMA Technical Authority Implementation Plan
12	NASA-HBK-8709.22 - Safety and Mission Assurance Acronyms, Abbreviations, and Definitions	N/A
13	NPD 8710.5 - Policy for Pressure Vessels and Pressurized Systems	1) DocID 63712: Safety and Health Plan 2) DocID 42472: Ground-Based Pressure Vessels and Systems 3) DocID 43913: JPL Design Principles 4) DocID 34880: JPL Standard for Systems Safety
14	NPR 8715.3 - NASA General Safety Program Requirements	1) DocID 34880: JPL Standard for Systems Safety 2) DocID 67713: EH&S Independent Assessment of Non Space Flight Field Research Safety Plan 3) DocID 60993: Utilization of Charter Flights for Research and Development, Testing and Experiments 4) DocID 45393: Laser Safety Program 5) DocID 65532: Use of Ionizing Radiation Sources 6) DocID 46652: Radiation Safety Committee 7) DocID 57016: Secure Launch Approval Procedure 8) DocID 45354: Hazard Communication Program 9) DocID 45352: General Fire and Life Safety 10) DocID 63712: Safety and Health Plan 11) DocID 78787: Fire and Life Safety - Authority Having Jurisdiction 12) Doc ID 44992: Welding, Brazing and Cutting (Hot Work) Safety
15	NPR 8715.5- Range Flight Safety Program	1) DocID 34880: JPL Standard for Systems Safety 2) DocID 78536: SMA Technical Authority Implementation Plan
16	NPR 8715.6 - NASA Procedural Requirements for Limiting Orbital Debris and Evaluating the Meteoroid and Orbital Debris Environments	1) DocID 58032: Flight Project Practices 2) DocID 60773: Orbital Debris Assessment and Mitigation 3) DocID 75512: Institutional Project Review Plan 4) DocID 43913: JPL Design Principles 5) DocID 60133: Assembly and Subsystem Level Env.

	NASA Document & Title	JPL Documents that Address the Requirements within the NASA Document
		Verification 6) DocID 35491: Environmental Assurance 7) DocID 78536: SMA Technical Authority Implementation Plan
17	NPR 8715.7 - Expendable Launch Vehicle (ELV) Payload Safety Program	1) DocID 34880: JPL Standard for Systems Safety
18	NASA-STD 8719.9 - Lifting Standard	1) DocID 63712: Safety and Health Plan 2) DocID 44618: Cranes, Hoists and Rigging Equipment 3) DocID 44619: Mobile Aerial Work Platforms 4) DocID 44620: Mobile Operations Lifting Permit
19	NASA-STD 8719.11 - Safety Standard for Fire Protection	1) DocID 45352: General Fire and Life Safety 2) DocID 63712: Safety and Health Plan 3) DocID 78787: Fire and Life Safety - Authority Having Jurisdiction 4) Doc ID 44992: Welding, Brazing and Cutting (Hot Work) Safety
20	NASA-STD 8719.12 - Safety Standards for Explosives, Propellants and Pyrotechnics	1) DocID 63712; Safety and Health Plan 2) DocID 42517: Explosives, Propellants and Pyrotechnics
21	NASA-STD 8719.13 - Software Safety Standard	1) DocID 57653: Software Development 2) DocID 34880: JPL Standard for Systems Safety 3) DocID 78707: Quality Assurance Guidelines for JPL Projects 4) DocID 35506: Anomaly Resolution - Requirement 5) DocID 71692: Software Identification and Criticality Assessment 6) DocID 78125: Software Architecting (SARCH) 7) DocID 78126: Software Configuration Management (SCM) 8) DocID 78128: Software Design (SDES) - Standard 9) DocID 78130: Software Integration and Test (SINT) 10) DocID 78132: Software Milestone Review (SMR) 11) DocID 78135: Software Process and Product Quality Assurance (SPPQA) 12) DocID 78141: Software Risk Management (SRSM) 13) DocID 78142: Software Safety and Reliability Analysis (SSAFE)

	NASA Document & Title	JPL Documents that Address the Requirements within the NASA Document
22	NASA-STD 8719.14 - Process for Limiting Orbital Debris	1) DocID 58032: Flight Project Practices 2) DocID 60773: Orbital Debris Assessment and Mitigation 3) DocID 75512: Institutional Project Review Plan 4) DocID 43913: JPL Design Principles
23	NASA-HBK 8719.14 - Handbook for Limiting Orbital Debris	1) DocID 58032: Flight Project Practices 2) DocID 60773: Orbital Debris Assessment and Mitigation 3) DocID 75512: Institutional Project Review Plan 4) DocID 43913: JPL Design Principles 5) DocID 60133: Assembly and Subsystem Level Env. Verification 6) DocID 35491: Environmental Assurance 7) DocID 78536: SMA Technical Authority Implementation Plan
24	NASA-STD 8719.17 - NASA Requirements for Ground-Based Pressure Vessels and Pressurized Systems (PV/S)	1) DocID 63712: Safety and Health Plan 2) DocID 42472: Ground-Based Pressure Vessels and Systems
25	NASA-STD 8719.24 NASA Expendable Launch Vehicle Payload Safety Requirements	1) DocID 34880: JPL Standard for Systems Safety
26	NASA-STD 8719.24 - Annex - NASA Expendable Launch Vehicle Payload Safety Requirements	1) DocID 34880: JPL Standard for Systems Safety
27	NASA-STD 8719.25 - Range Flight Safety	1) DocID 34880: JPL Standard for Systems Safety
28	NPD 8720.1 - NASA Reliability and Maintainability (R&M) Program Policy	1) DocID 58032: Flight Project Practices 2) DocID 78022: Reliability Assurance Requirements 3) DocID 34904: Reliability Analysis Handbook 4) DocID 35506: Anomaly Resolution
29	NASA-STD 8729.1 - NASA Reliability and Maintainability (R&M) Standard for Spaceflight and Support Systems	1) DocID 58032: Flight Project Practices 2) DocID 78022: Reliability Assurance Requirements 3) DocID 34904: Reliability Analysis Handbook 5) DocID 35506: Anomaly Resolution
30	NPD 8730.2 - NASA Parts Policy	1) DocID 58032: Flight Project Practices 2) DocID 57732: Institutional Parts Program (IPPR) 3) DocID 78157: Part Engineering Technical Standard

	NASA Document & Title	JPL Documents that Address the Requirements within the NASA Document
		4) DocID 78395: Counterfeit Electronic Parts Control Program 5) DocID 78229: Provide Qualified Supplier Base 6) DocID 78322: Conduct Procurement Quality Assurance (PQA) Supplier Audits 7) DocID 72592: GIDEP and NASA Advisory Program 8) DocID 78324: Quality Clause Application of Purchase Requisitions (PRs) & P-Card Orders 9) DocID 78325: Creating/Revising Quality Clauses 10) DocID 78326: Quality Clause Exemption Request 11) DocID 78764: Conduct Procurement Quality Assurance (PQA) Supplier Visit 12) DocID 77525: Counterfeit Parts Working Group 13) DocID 61974: Use of the Approved Supplier List 15) DocID 78327: Use of Quality Assurance Inspection Plans
31	NPD 8730.5 - NASA Quality Assurance Program Policy	1) DocID 10008: Management System 2) DocID 23492: Management System & Governance 3) DocID 78473: JPL Mandatory Inspection Points (JMIPs) 4) DocID 78183: Plan Project Quality Assurance 5) DocID 78172: Flight System Subcontract Plans and Documentation for SDRL and DRDs 6) DocID 78314: Flight Subsystem, Instrument, Assembly or Sub-Assembly Subcontract Plans and Documentation for SDRL and DRDs 7) DocID 78755: Control of Nonconforming Product 8) DocID 78790: Additional Nonconforming Product (ANPro) Process for Inspection Reports 9) DocID 78184: Conduct Quality Assurance Training 10) DocID 78672: NASA-Based Workmanship Standards, Training, and Certification 11) DocID 61974: Use of the Approved Supplier List 12) DocID 78530: Term - Quality Critical Items (QCI)
32	NPR 8735.1 - Procedures for Exchanging Parts, Materials, and Safety Problem Data Utilizing the Government-Industry Data Exchange Program (GIDEP) and NASA Advisories	DocID 72592: GIDEP and NASA Advisory Program

	NASA Document & Title	JPL Documents that Address the Requirements within the NASA Document
33	NPR 8735.2 - Management of Government Quality Assurance Functions for NASA Contracts	1) DocID 10008: Management System 2) DocID 23492: Management System & Governance 3) DocID 78473: JPL Mandatory Inspection Points (JMIPs) 4) DocID 78183: Plan Project Quality Assurance 5) DocID 78229: Provide Qualified Supplier Base 6) DocID 78322: Conduct Procurement Quality Assurance (PQA) Supplier Audits 7) DocID 61974: Use of Approved Supplier List 8) DocID 78178: Perform Hardware Inspection Planning 9) DocID 78176: Conduct Hardware Inspections 10) DocID 78707: Quality Assurance Guidelines for JPL Projects 11) DocID 78829: Quality Assurance Requirements Tailoring Agreement Process 12) DocID 78281: QA Step-Action Table to Perform Control and Use of Quality Stamps 13) DocID 78184: Conduct Quality Assurance Training 14) DocID 78672: NASA-Based Workmanship Standards, Training, and Certification 15) DocID 78327: Use of Quality Assurance Inspection Plans 16) DocID 78764: Conduct Procurement Quality Assurance (PQA) Supplier Visit 17) DocID 78250: Inspection and Discrepancy Reporting Process 18) DocID 78286: Assure Delivery Review
34	NASA-STD-8719.7 - Facility System Safety Guidebook	1) DocID 75532: Facility System Safety Management Plan
35	NASA-STD 8739.1 - Workmanship Standard for Polymeric Application on Electronic Assemblies	1) DocID 35120: Spacecraft Electronic Packaging/Cabling Design and Fabrication 2) DocID 78672: Workmanship Standards, Training, and Certification
36	NASA-STD 8739.4 - Workmanship Standard for Crimping, Interconnecting Cables, Harnesses and Wiring	1) DocID 35120: Spacecraft Electronic Packaging/Cabling Design and Fabrication 2) DocID 78672: NASA-Based Workmanship Standards, Training, and Certification
37	NASA-STD 8739.5 - Workmanship Standard for Fiber	1) DocID: 35120 Spacecraft Electronic Packaging/Cabling Design and Fabrication

	NASA Document & Title	JPL Documents that Address the Requirements within the NASA Document
	Optic Terminations, Cable Assemblies and Installation	2) DocID 78672: NASA-Based Workmanship Standards, Training, and Certification
38	NASA-STD 8739.6 - Implementation Requirements for NASA Workmanship Standards	1) DocID 78184: Conduct Quality Assurance Training 2) DocID 78672: NASA-Based Workmanship Standards, Training, and Certification 3) DocID 34906: Electrostatic Discharge (ESD) Technical Requirements 4) DocID 78250: Inspection and Discrepancy Reporting Process 5) DocID 38112: Handling, Movement, Storage and Shipment of Critical Flight Project Hardware 6) DocID 45852: Pre-Operational Safety Review Program 7) DocID 58314: Control and Use of Inspection, Measuring and Test Equipment
39	NASA-STD 8739.8 - Software Assurance Standard	1) DocID 58032: Flight Project Practices 2) DocID 57653: Software Development 3) DocID 78135: Software Process and Product Quality Assurance (SPPQA) 4) DocID 78183: Plan Project QA Process (512 doc) 5) DocID 78376: Perform Software Process Product Quality Assurance 6) DocID 78707: Quality Assurance Guidelines for JPL Projects 7) DocID 78378: Assure Project Software Life Cycle Activities 8) DocID 78381: Perform Software Risk, Safety, & Reliability Analysis 9) DocID 78380: Assure Subcontractor Software Quality
40	NASA-STD 8739.10 - Electrical, Electronic and Electromechanical (EEE) Parts Assurance Standard	1) DocID 58032: Flight Project Practices 2) DocID 57732: Institutional Parts Program (IPPR) 3) DocID 78157: Part Engineering Technical Standard 4) DocID 78395: Counterfeit Electronic Parts Control Program 5) DocID 78229 Provide Qualified Supplier Base 6) DocID 78322: Conduct Procurement Quality Assurance (PQA) Supplier Audits 7) DocID 61974: Approved Supplier List 8) DocID 72592: GIDEP and NASA Advisory Program 9) DocID 78327: Use of Quality Assurance Inspection Plans 10) DocID 78230: Verify Requirements Compliance by Suppliers 11) DocID 34906: Electrostatic Discharge (ESD) Technical Requirements

	NASA Document & Title	JPL Documents that Address the Requirements within the NASA Document
		12) DocID 77252: Counterfeit Parts Working Group 13) DocID 78530: Term - Quality Critical Items (QCI)
41	NASA-STD-8739.12 - Metrology & Calibration	1) DocID 58032: Flight Project Practices 2) DocID 58314: Control and Use of Inspection, Measuring and Test Equipment

***** END OF IP *****

ATTACHMENT B**AGREEMENT AND CONDITIONS FOR
EVALUATION OF PROPOSALS**

- (a) The recipient agrees to use proposal information for NASA evaluation purposes only. Additionally, the recipient agrees not to reveal any information concerning the proposal or the evaluation of the proposal to anyone not also participating in the evaluation for three years from the date of disclosure. If information is disclosed to others participating in the evaluation, that disclosure shall only be to the extent that the information is required in connection with the evaluation. Although this limitation does not apply to information that has been previously made available to the public or disclosed publicly, the recipient agrees not to disclose what public information is contained in the proposal for three years from the date of disclosure.
- (b) The recipient agrees that the NASA proposal cover sheet notice and any notice that may have been placed on the proposal by its originator, shall be applied to any reproduction or abstracts of any proposal information furnished.
- (c) Upon completion of the evaluation, the recipient agrees to return all copies of proposal information or abstracts, if any, to the NASA office that initially furnished the proposal information.
- (d) Unless authorized in writing by the NASA official releasing the proposal information, the recipient agrees not to contact either the business entities originating the proposals or any of their employees, representatives, or agents concerning any aspect of the proposal information or extracts covered by this agreement.
- (e) The recipient agrees to review his or her financial interests relative to the entities whose proposal information NASA furnishes for evaluation. This duty to review financial interests begins prior to the receipt of the proposal information and continues until the evaluation is completed and the material is sent back to NASA. At any time the recipient becomes aware that he or she or a person with a close personal relationship (household, family members, business partners, or associates) has or acquires a financial interest in the entities whose proposal information is subject to this agreement, the recipient shall immediately advise the NASA official releasing the proposal information, protect the proposal information, and cease evaluation activities pending a NASA decision resolving the conflict of interest.
- (f) For purposes of this agreement, financial interests includes, but is not limited to stock ownership, outside employment, spousal employment, profit sharing and actively negotiating for future employment.

Signature of Recipient

Date

Printed Name of Recipient

cc: JPL Office of Contracts Management

ATTACHMENT C

ORGANIZATIONAL CONFLICT OF INTEREST MITIGATION PLAN

Contract 80NM0018D0004

1.0 Scope

The California Institute of Technology (Caltech) potentially may become involved in activities that give rise to Organizational Conflicts of Interest (OCI), resulting from its operation of NASA's Jet Propulsion Laboratory (JPL), a Federally-Funded Research and Development Center (FFRDC). It is imperative that employees are vigilant about identifying OCI situations and comply with Caltech's rules and regulations governing OCI issues.

This plan identifies and describes Caltech's internal management policies, processes, and procedures for identifying, evaluating, and resolving all potential, real, and apparent OCIs. This plan complies with FAR Subpart 9.5, Organizational and Consultant Conflicts of Interest and Caltech's JPL Rules documents DocID 58716 and DocID 61612.

2.0 Purpose

To provide employees with guidelines to avoid, mitigate, prevent and/or disclose conflicting roles and responsibilities that might impair their objectivity in favor of Caltech's products and/or capabilities and/or may create an unfair competitive advantage.

Given Caltech's close relationship with NASA through operating its FFRDC and access to NASA's sensitive information and/or business confidential and proprietary information from third parties, OCIs generally fall into one of three categories of conflicts of interest, as determined by the General Accountability Office (GAO):

- **Unequal Access to Information** - An OCI due to unequal access to information is created when a contractor has access to nonpublic information, which may provide an unfair competitive advantage in a later competition for a government contract.
- **Biased Ground Rules** - An OCI due to biased ground rules is created when a contractor, as part of its performance of a government contract, has in some sense set the ground rules for another government contract by, for example, writing the statement of work or the specifications. In these biased ground rules cases, the primary concern is that the contractor could skew the future competition, whether intentionally or not, in favor of itself.
- **Impaired Objectivity** - An OCI due to impaired objectivity is created when a contractor's work under a government contract requires the contractor to evaluate proposals / past performance of itself or a competitor, which calls into question the contractor's ability to render impartial advice to the government.

Caltech expects to avoid activities that potentially give rise to "Unequal Access to Information" and "Biased Ground Rules" OCIs by complying with the Contract, JPL Rules, and a set of rigorous management controls and safeguards. By adhering to these requirements, Caltech will be prevented from obtaining an unfair competitive advantage over any subsequent competition and thereby minimize or potentially eliminate altogether, both of these types of OCIs.

In situations where NASA requests that Caltech support evaluation of proposals submitted in response to NASA solicitations in which Caltech is also participating, Caltech recognizes that the "Impaired Objectivity" type of OCI would be both actual and unavoidable, and would therefore require a waiver in accordance with FAR 9.503.

3.0 OCI Risks

Situations that may give rise to OCI include, but are not limited to:

- a. Providing advisory and assistance services to NASA in the review, selection, award, and monitoring of Announcements of Opportunity (AO), NASA Research Announcements (NRA), other Broad Agency Announcements (BAAs), Standing Review Boards (SRB), and Small Business Innovation Research (SBIR) / Small Business Technology Transfer (SBIR/STTR) awards.
- b. Providing advisory and assistance services to NASA in program and project management roles (e.g., NASA program lead, NASA project lead), which includes program and project planning that may result in subsequent competitive acquisition of supplies and services.
- c. Providing advisory and assistance services to NASA in other decision-making roles (e.g., export control; energy management; education/outreach; and NASA's SBIR program).
- d. Managing the Research and Technology (R&A) program and Caltech's streamlined subcontracting process for the award of observation time on programs such as the Spitzer Space Telescope (SST). Caltech may be tasked with similar roles for other programs in the future.
- e. Accessing NASA's sensitive technical and business information, or proprietary, business confidential, or financial data of other companies.
- f. Holding financial interests in organizations with which it conducts business.
- g. Performing tasks under the Contract that include developing complete specifications or statements of work that are to be incorporated into a Government solicitation for non-developmental items.
- h. Performing tasks that may result in a subsequent competitive acquisition of developmental items (e.g., flight hardware).

4.0 OCI Assessment Methodology

Caltech uses the following methods to avoid, neutralize, or mitigate OCI issues:

- a. Conduct sensitivity and awareness training to help identify OCIs for all employees. The Office of Contracts Management (OCM) leads this training to sensitize employees to OCI issues and Caltech's OCI policy.
- b. Contact OCM immediately upon realizing that potential OCI activities may arise as described in Section 3.0, but not limited to those activities.
- c. Require projects to identify potential OCIs during task plan development.
- d. Prepare task order-level OCI Mitigation Plan (OCIMP) for programs / projects that have potential OCI situations and submit to the NASA Management Office (NMO) Contracting Officer (CO) for final approval.
- e. Screen potential employees supporting a NASA solicitation, including SRBs and Source Evaluation Boards (SEBs) / Source Evaluation Teams (SETs) for potential OCI issues.
- f. Recuse affected employees from potential conflicted efforts. Employees will not partake in evaluation of any such identified system in any respect, neither of Caltech nor its competitors, for NASA.

- g. Separate personnel if an OCI exists in the organizational structure within the project. Firewall personnel are moved from the conflicted management chain to a manager that is not conflicted until selection of award. This decision is made to ensure that competitive information does not taint the proposal team and provide an unfair competitive advantage, risking disqualification from the procurement.
- h. Secure hard copy data through physical means, such as in locked storage cabinets; soft copy data is secured on approved computers and/or separated networks. Access to information is further controlled by identification and password combination.
- i. Sign Non-Disclosure Agreements (NDAs). Employees must sign NDA agreements that prohibit the release of sensitive information obtained under a specific project to unapproved personnel. Employees who sign NDAs are considered “firewalled” from employees on proposal teams, until a selection is made or three years from the date of signature, whichever comes first. All employees who will serve as expert reviewers for proposal evaluation must also sign the “Agreement and Conditions for Evaluation of Proposals” from Attachment B of the Contract. (Mod 4)
- j. Carry out Responsible Official duties as follows:
 - i. Sign the OCIMP acknowledging Caltech’s approval of the Plan
 - ii. Execute the requirements of the OCIMP within the program/project
 - iii. Ensure the OCIMP is current
 - iv. Strategize which personnel are behind the “firewall”
 - v. Prepare and maintain a comprehensive list of persons behind the firewall
 - vi. Ensure that a data protection system is established for the program / project
 - vii. Require OCI Training for appropriate personnel
 - viii. Act as POC for reviews and audits by NASA.

The responsible official is generally the program or project manager and is not behind the “firewall” to ensure compliance by firewall personnel.

- k. Sign an OCI Acknowledgement and Certification Form when Caltech provides its unique expertise to Non-NASA activities with more than one Non-NASA participant in response to a Government Solicitation. A potential OCI exists because Caltech may have access to data or documents categorized or identified by the participants as “competition sensitive.” A list of firewalled team members is attached to the form and made available to Government personnel upon request.
- l. Complete Annual Conflict of Interest and Commitment Disclosure Form - All JPL employees must complete an annual online COI form to ensure compliance with Caltech’s ethical standards as well as the laws and regulations that govern Institute activities, while fostering and sustaining an environment of openness and integrity.

5.0 Personnel Clearance Procedures

The program / project supporting the NASA acquisition activity determines which employee is OCI-free and required to support the work for NASA. The program / project submits the required employee names

to the NASA Headquarters Program Executive (PE) for concurrence. A written letter with the list of agreed upon employee names is sent to the NMO CO for their file.

Employees that sign NDAs are considered “firewall” personnel and are required to abide by the terms of the NDA.

6.0 OCI Response Procedures

Caltech uses the following steps when an actual or apparent OCI is identified:

- a. The program/project manager consults with OCM to confirm OCI determination. OCM may consult with Caltech’s legal department, if necessary.
- b. The program/project manager informs the NASA PE that an OCI has been identified or vice versa, and a Task Order-level OCIMP is prepared, along with the task plan, if required.
- c. The OCIMP is developed by the program / project manager, stakeholders and OCM, and then submitted to Caltech’s legal department for approval.
- d. If Caltech is requested by NASA to evaluate proposals by JPL or its competitor, NASA will request a waiver.
- e. The program / project manager determines the required Contractor personnel to provide support to the NASA acquisition activity and submits names to the NASA PE for concurrence.
- f. Caltech submits the OCIMP to the cognizant NMO CO for final approval, along with the task plan, if required.
- g. The NASA PE concurs with the list of Contractor employees by sending written correspondence to the NMO CO.
- h. After NMO CO has approved the OCIMP and has received a NASA-approved waiver, if required, OCM provides program / project level OCI training for the approved personnel at which time the NDAs are signed.
- i. Upon signing an NDA, the approved Contractor personnel are considered “firewall” personnel, and can begin work to support the NASA solicitation.
- j. Firewall personnel responsible for evaluation activities must also sign Attachment G of the Contract, and then are allowed to begin evaluation activities.

7.0 Update Criteria

The criteria for determining when an update to the plan is required include the following:

- a. Changes to Caltech OCI process/policy.
- b. Changes to the NASA OCI policy and/or FAR clauses that are applicable to OCIs and to the Contract.

The process for revising the plan when an update is required include the following:

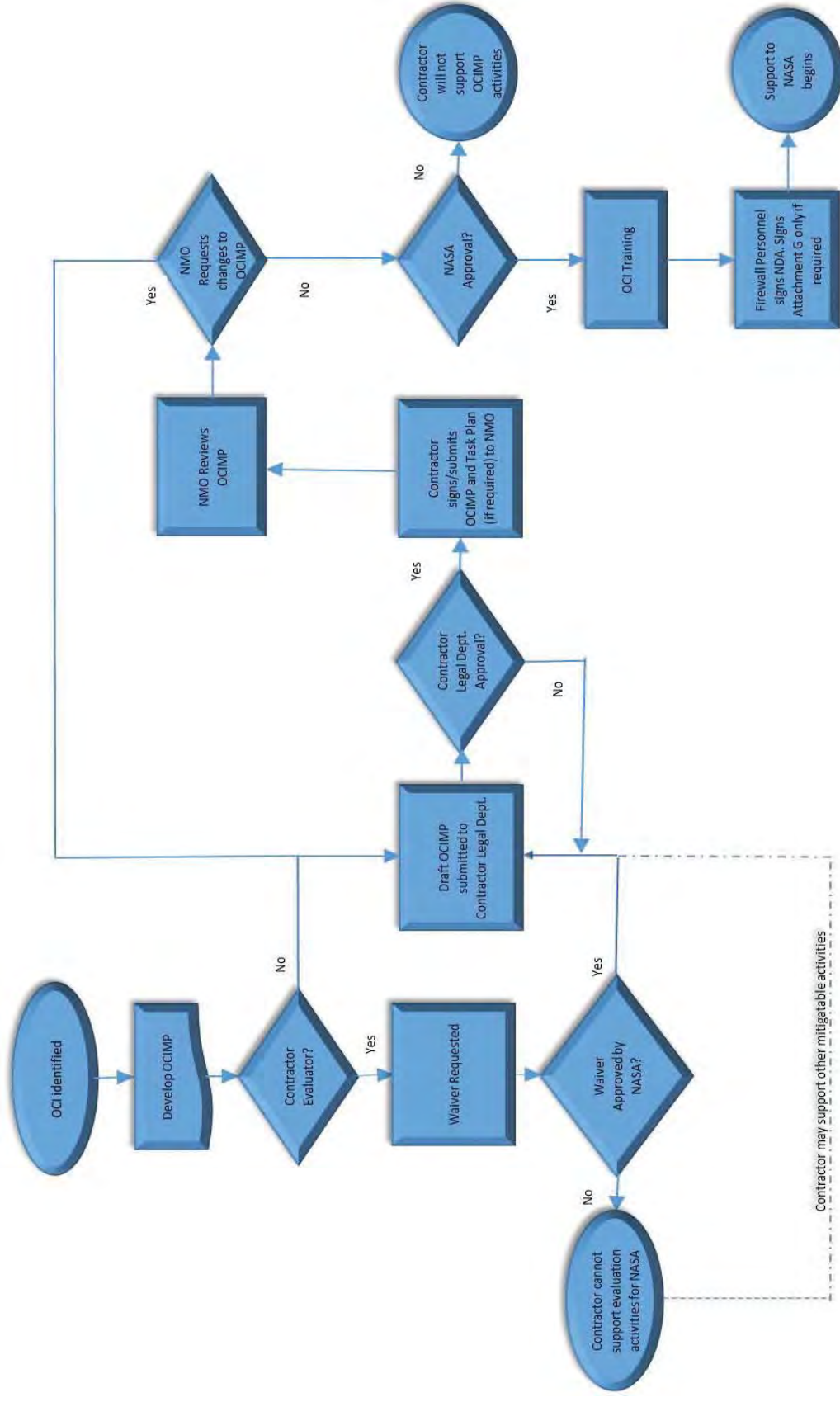
- a. Assess the impact to the plan from a change in process, policy or requirements.
- b. Update the plan as required.
- c. Submit updated plan to the NASA Management Office (NMO).

8.0 OCI Training

All Contractor employees receive formal OCI training as needed. This training is administered by the OCM and includes the following:

- a. Explain the theory of OCIs in detail.
- b. Define the roles of personnel evaluators, proposers, selection official, and consultants or drafters of solicitation requirement.
- c. Define roles and responsibilities of the firewall personnel.
- d. Define the role of the responsible official as a non-firewall employee.
- e. Discuss that firewall personnel are prohibited from moving to any proposal development teams.
- f. Explain the responsibilities for reporting potential, actual or apparent OCIs.
- g. Discuss handling and storage of non-public, sensitive information of NASA and proprietary information from third parties.
- h. Discuss screening new team members and/or new hires for potential OCIs before being allowed to join the effort.
- i. Discuss OCIs related to Standing Review Boards.
- j. Discuss the Government's methods for resolving OCIs.
- k. Include extensive discussions on possible OCI-related scenarios and quizzes to test knowledge and data retention.
- l. Specify the relevant JPL Rules requiring compliance with OCI requirements and possible penalties for failure to comply.

Attachment 1. Organization Conflict of Interest Mitigation Process Flow



ATTACHMENT D

**CALTECH / JET PROPULSION LABORATORY
(CALTECH/JPL)**

SMALL BUSINESS SUBCONTRACTING PLAN

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I. Introduction and Small Business Program Overview

Caltech/JPL (the Contractor) is committed to maximum utilization of Small Businesses (SB); Small Disadvantaged Businesses (SDB); Women-Owned Small Businesses (WOSB); HUBZone (HUBZone) Businesses; Veteran-Owned Small Businesses (VOSB); Service-Disabled Veteran-Owned Small Businesses (SDVOSB); and Historically Black Colleges and Universities and Minority Institutions (HBCU/MI) in the subcontracting of services and supplies in accordance with Public Law 95-507 and FAR Clause 52.219-9 (Jan 2017).

The Small Business Programs Office (Office) is a section of the Contractor's Acquisition Division. The Office manages the Contractor's Small Business and Supplier Diversity Program. The mission of the Small Business Programs Office is to help small businesses think big. We work to develop successful partnerships between the Contractor and suppliers by, a) Matching businesses to procurement opportunities, b) Advocating for under-utilized businesses and promoting supplier diversity and c) Providing outreach services that encourage growth and development.

The Office, to the maximum practicable extent, will ensure that small businesses (SDB, WOSB, HUBZone, VOSB, SDVOSB, and HBCU/MI) have an equitable opportunity to compete for the Contractor's procurement activities which includes subcontracts and purchase orders. The Office's primary responsibility and commitment to the small businesses community is to increase competitive opportunities. The Office also serves as a "go-between" with the Contractor's end-users and potential suppliers by assisting small businesses with marketing opportunities, introductory meetings and product demonstrations for the Contractor's acquisition and technical staff.

II. Table 1 - The Contractor's Goals Shown as a Percentage of 5-Year Projected Contract Value in 000's:

	Year 1: FY2019	Year 2: FY2020	Year 3: FY2021	Year 4: FY2022	Year 5: FY2023	FY2019-2023 Total
Total Business Base	\$ 2,255,765,730	\$ 2,013,514,410	\$ 1,686,097,160	\$ 1,655,350,370	\$ 1,500,000,000	\$ 9,110,727,670
Small Business (SB) Concerns						
Dollars	\$ 315,807,202	\$ 261,958,225	\$ 197,441,977	\$ 191,805,447	\$ 139,755,000	\$ 1,106,767,852
Percentage	14.0%	13.0%	11.7%	11.6%	9.32%	12%
Small Disadvantaged (SDB) Business Concerns						
Dollars	\$ 64,289,323	\$ 52,290,969	\$ 38,223,823	\$ 37,013,634	\$ 24,921,000	\$ 216,738,749
Percentage	2.85%	2.60%	2.27%	2.24%	1.66%	2.3%
Women-Owned Small Business (WOSB) Concerns						
Dollars	\$ 47,371,080	\$ 38,518,531	\$ 28,124,101	\$ 27,230,514	\$ 18,225,000	\$ 159,469,225
Percentage	2.1%	1.91%	1.67%	1.65%	1.22%	1.7%
Historically Black Colleges and Universities/Minority Institutes (HBCU/MI) Concerns						
Dollars	\$ 6,767,297	\$ 5,486,827	\$ 3,977,503	\$ 3,848,690	\$ 2,919,900	\$ 23,000,217
Percentage	0.3%	0.27%	0.24%	0.23%	0.19%	0.25%
HUBZone Small Business Concerns						
Dollars	\$ 22,557,657	\$ 19,581,428	\$ 15,780,183	\$ 15,436,142	\$ 13,419,900	\$ 86,775,310
Percentage	1.0%	0.97%	0.94%	0.93%	0.89%	0.95%
Veteran-Owned Small Business (VOSB) Concerns						
Dollars	\$ 27,069,189	\$ 23,054,740	\$ 18,041,240	\$ 17,601,340	\$ 14,089,500	\$ 99,856,009
Percentage	1.20%	1.15%	1.07%	1.06%	0.94%	1.08%
Service-Disabled Veteran-Owned Small Business Concerns						
Dollars	\$ 22,557,657	\$ 19,027,711	\$ 14,669,045	\$ 14,290,640	\$ 11,089,500	\$ 81,634,554
Percentage	1.00%	0.95%	0.87%	0.86%	0.74%	0.88%

Consistent with FAR 52.219-9 paragraph (l), only subcontracts involving performance in the United States or its outlying areas are included.

II. Table 2 - The Contractor's Goals Shown as a Percentage of 5-Year Projected Subcontract Value in 000's

	Year 1: FY2019	Year 2: FY2020	Year 3: FY2021	Year 4: FY2022	Year 5: FY2023	FY19-FY23
Planned Subcontract Amount:	\$ 846,315,870	\$ 746,038,170	\$ 570,342,100	\$ 558,445,150	\$ 425,000,000	\$ 3,146,141,290
Small Business (SB) Concerns						
Dollars	\$ 315,807,202	\$ 261,958,225	\$ 197,441,977	\$ 191,805,447	\$ 139,755,000	\$ 1,106,767,852
Percentage	37.3%	35.1%	34.6%	34.3%	32.9%	34.9%
Small Disadvantaged (SDB) Business Concerns						
Dollars	\$ 64,289,323	\$ 52,290,969	\$ 38,223,823	\$ 37,013,634	\$ 24,921,000	\$ 216,738,749
Percentage	7.6%	7.0%	6.7%	6.6%	5.86%	6.76%
Women-Owned Small Business (WOSB) Concerns						
Dollars	\$ 47,371,080	\$ 38,518,531	\$ 28,124,101	\$ 27,230,514	\$ 18,225,000	\$ 159,469,225
Percentage	5.60%	5.16%	4.93%	4.88%	4.29%	4.97%
Historically Black Colleges and Universities/Minority Institutes (HBCU/MI) Concerns						
Dollars	\$ 6,767,297	\$ 5,486,827	\$ 3,977,503	\$ 3,848,690	\$ 2,919,900	\$ 23,000,217
Percentage	0.80%	0.74%	0.70%	0.69%	0.69%	0.72%
HUBZone Small Business Concerns						
Dollars	\$ 22,557,657	\$ 19,581,428	\$ 15,780,183	\$ 15,436,142	\$ 13,419,900	\$ 86,775,310
Percentage	2.67%	2.62%	2.77%	2.76%	3.16%	2.80%
Veteran-Owned Small Business (VOSB) Concerns						
Dollars	\$ 27,069,189	\$ 23,054,740	\$ 18,041,240	\$ 17,601,340	\$ 14,089,500	\$ 99,856,009
Percentage	3.20%	3.09%	3.16%	3.15%	3.32%	3.18%
Service-Disabled Veteran-Owned Small Business Concerns						
Dollars	\$ 22,557,657	\$ 19,027,711	\$ 14,669,045	\$ 14,290,640	\$ 11,089,500	\$ 81,634,554
Percentage	2.67%	2.55%	2.57%	2.56%	2.61%	2.59%

II. Table 3 - The Contractor's Goals Shown as a Percentage of 5-Year Projected Contract Value in 000's (OPTION YEARS)

	Year 1: FY2024	Year 2: FY2025	Year 3: FY2026	Year 4: FY2027	Year 5: FY2028	FY2024-2028 Total
Total Business Base	\$ 1,500,000,000	\$ 1,500,000,000	\$ 1,500,000,000	\$ 1,500,000,000	\$ 1,500,000,000	\$ 7,500,000,000
Small Business (SB) Concerns						
Dollars	\$ 139,755,000	\$ 139,755,000	\$ 139,755,000	\$ 139,755,000	\$ 139,755,000	\$ 698,775,000
Percentage	9.3%	9.3%	9.3%	9.3%	9.3%	9.3%
Small Disadvantaged (SDB) Business Concerns						
Dollars	\$ 24,921,000	\$ 24,921,000	\$ 24,921,000	\$ 24,921,000	\$ 24,921,000	\$ 124,605,000
Percentage	1.66%	1.66%	1.66%	1.66%	1.66%	1.7%
Women-Owned Small Business (WOSB) Concerns						
Dollars	\$ 18,225,000	\$ 18,225,000	\$ 18,225,000	\$ 18,225,000	\$ 18,225,000	\$ 91,125,000
Percentage	1.22%	1.22%	1.22%	1.22%	1.22%	1.2%
Historically Black Colleges and Universities/Minority Institutes (HBCU/MI) Concerns						
Dollars	\$ 2,919,900	\$ 2,919,900	\$ 2,919,900	\$ 2,919,900	\$ 2,919,900	\$ 14,599,500
Percentage	0.19%	0.19%	0.19%	0.19%	0.19%	0.19%
HUBZone Small Business Concerns						
Dollars	\$ 13,419,900	\$ 13,419,900	\$ 13,419,900	\$ 13,419,900	\$ 13,419,900	\$ 67,099,500
Percentage	0.89%	0.89%	0.89%	0.89%	0.89%	0.89%
Veteran-Owned Small Business (VOSB) Concerns						
Dollars	\$ 14,089,500	\$ 14,089,500	\$ 14,089,500	\$ 14,089,500	\$ 14,089,500	\$ 70,447,500
Percentage	0.94%	0.94%	0.94%	0.94%	0.94%	0.94%
Service-Disabled Veteran-Owned Small Business Concerns						
Dollars	\$ 11,089,500	\$ 11,089,500	\$ 11,089,500	\$ 11,089,500	\$ 11,089,500	\$ 55,447,500
Percentage	0.74%	0.74%	0.74%	0.74%	0.74%	0.74%

II. Table 4 - The Contractor's Goals Shown as a Percentage of 5-Year Projected Subcontract Value in 000's (OPTION YEARS)

	Year 1: FY2024	Year 2: FY2025	Year 3: FY2026	Year 4: FY2027	Year 5: FY2028	FY2024-2028 Total
Planned Subcontract Amount:	\$ 425,000,000	\$ 425,000,000	\$ 425,000,000	\$ 425,000,000	\$ 425,000,000	\$ 2,125,000,000
Small Business (SB) Concerns						
Dollars	\$ 139,755,000	\$ 139,755,000	\$ 139,755,000	\$ 139,755,000	\$ 139,755,000	\$ 698,775,000
Percentage	32.9%	32.9%	32.9%	32.9%	32.9%	32.9%
Small Disadvantaged (SDB) Business Concerns						
Dollars	\$ 24,921,000	\$ 24,921,000	\$ 24,921,000	\$ 24,921,000	\$ 24,921,000	\$ 124,605,000
Percentage	5.86%	5.86%	5.86%	5.86%	5.86%	5.86%
Women-Owned Small Business (WOSB) Concerns						
Dollars	\$ 18,225,000	\$ 18,225,000	\$ 18,225,000	\$ 18,225,000	\$ 18,225,000	\$ 91,125,000
Percentage	4.29%	4.29%	4.29%	4.29%	4.29%	4.29%
Historically Black Colleges and Universities/Minority Institutes (HBCU/MI) Concerns						
Dollars	\$ 2,919,900	\$ 2,919,900	\$ 2,919,900	\$ 2,919,900	\$ 2,919,900	\$ 14,599,500
Percentage	0.69%	0.69%	0.69%	0.69%	0.69%	0.69%
HUBZone Small Business Concerns						
Dollars	\$ 13,419,900	\$ 13,419,900	\$ 13,419,900	\$ 13,419,900	\$ 13,419,900	\$ 67,099,500
Percentage	3.16%	3.16%	3.16%	3.16%	3.16%	3.16%
Veteran-Owned Small Business (VOSB) Concerns						
Dollars	\$ 14,089,500	\$ 14,089,500	\$ 14,089,500	\$ 14,089,500	\$ 14,089,500	\$ 70,447,500
Percentage	3.32%	3.32%	3.32%	3.32%	3.32%	3.32%
Service-Disabled Veteran-Owned Small Business Concerns						
Dollars	\$ 11,089,500	\$ 11,089,500	\$ 11,089,500	\$ 11,089,500	\$ 11,089,500	\$ 55,447,500
Percentage	2.61%	2.61%	2.61%	2.61%	2.61%	2.61%

III. Principal Products and Services to be Subcontracted

The Contractor's Acquisition Division provides acquisition support for the Contractor's missions involving solar system exploration, earth sciences and applications, communications, and information systems. In addition to NASA funded activities, the Acquisition Division supports programs on a reimbursable basis for other government departments and agencies. The Acquisition Division also supports the Contractor's support services requirements, construction of facilities, and all institutional supplies and services. All categories of small businesses have an opportunity to compete for these subcontracts. Since the Prime Contract is Task Order based, it is difficult to identify and plan subcontracting opportunities in advance, especially over the 5-year period of the Contract, with five (5) one year options. However, the following represents a good sampling of products and services where subcontracting opportunities can or already exist for small businesses over the life of the Prime Contract and option periods.

	SB	VOSB	SDVOSB	HUBZone	SDB	WOSB
A/E Support					X	
Computer Equipment						X
Computer Services						X
Engineering Support	X		X			
Fabrication Services	X					X
Facility Services		X	X	X	X	
Office Furniture	X					
Staffing					X	
Warehousing	X					

IV. Methods Used to Develop the Contractor's Goals

NASA submits a budget to Congress for approval on a yearly basis. The amount of funding authorized and flowed down to both NASA and the Contractor are directly related to approval of the submitted NASA budget. Therefore, the amount of funding the Contractor obtains annually is directly associated to the level of funding obtained by NASA from Congress.

The Contractor strongly supports NASA's Small Business Program and continues to work in assisting the agency with meeting its goals. The Contractor's goal setting process is as follows:

The method used:

- Is based on the Contractor's Institutional Business Forecast (IBF), an internal Caltech/JPL process used to evaluate and project the business base of the Contractor. The IBF represents the Contractor's 5 year (including current FY) business base estimate. It is produced in July and updated in, February. The July forecast is used to establish the burden rates for the following FY. The February forecast is used as a formal midyear reassessment of the July business base plan. The Contractor's Executive Council uses the information generated by the IBF to support strategic planning and overall management of the Contractor.

Program/project managers and project resource analysts work together under the auspices of the directorate business office to develop the forecast by analyzing approved budgets for existing work and considering planned and proposed future work. The Program directorates review and validate the IBF written forecast assumptions, cost and workforce data for achievability.

- The IBF focuses on "cost" as opposed to obligations; however, the project's NOA and obligations forecasts form the basis from which the cost forecast is derived. Additionally, only direct costs are included (i.e., bypass, headquarter costs, and other NASA costs are not included).
- In the small business goal setting process, past business and small business trends are considered. In addition, the Contractor reviewed its large institutional term contracts to determine which ones, if any, could potentially be set-aside for small businesses during the term of this Prime Contract and Option Years.
- Goals for all other socioeconomic categories are also based on the Contractor's historical figures and future business trends.

V. Methods Used to Identify Potential Sources for Solicitation Purposes

It is the policy of the Contractor's Small Business Programs Office to the maximum extent practicable ensure that small businesses (SDB, WOSB, HUBZone, VOSB, SDVOSB, and HBCU/MI) shall have an equitable opportunity to compete for the Contractor's subcontracts. The following are continuing efforts that contribute towards achieving our objective:

- A. Identifying categories of qualified small business suppliers by reviewing categories of small business listings and directories prepared by government agencies, prime contractors, private sector companies, and all categories of small business organizations.

The Office uses the following to assist in small business source development. These sites have search capabilities for small business classifications:

- Communication between Small Business Specialists at NASA Centers
 - Department of Defense Western Regional Council Small Business Directory
 - Internal small business database maintained by the Small Business Programs Office
 - NASA Vendor Database (NVDB)
 - Systems for Award Management (SAM) – SAM.GOV
 - U.S. Small Business Administration’s Dynamic Small Business Search (DSBS)
<http://dsbs.sba.gov>
- B. Providing practical assistance to all categories of the small business community to better prepare them to respond to the Contractor’s solicitations, particularly in arranging for direct interface with cognizant buying and end-user personnel.
- C. Building and maintaining awareness of the Small Business Program by briefing cognizant technical and acquisition personnel and complying with Public Law 95-507 as it pertains to small business plans.
- D. Assuring all various subcategories of small businesses are provided the opportunity to participate in solicitations for products and/or services which they are capable of providing.
- E. Establishing and maintaining records of solicitations, source list and subcontract award activity.
- F. Preparing and submitting periodic subcontract reports to the Contractor’s Management, NASA, and other government agencies as required.
- G. Providing Acquisition and Technical personnel with tailored lists of small businesses who specialize in goods/services of interest to the Contractor.

VI. Indirect Cost and Estimate of Project versus Non-project Percentages

Under the terms of the Prime Contract with NASA, the Contractor has no indirect costs. All costs are considered direct. Nonetheless, the rough estimate of program/project-related subcontract % in the subcontracting base goals is 87% versus non-program/project-related subcontract % (e.g., institutional, non-project facilities, etc.) of 13%.

VII. Responsibility for Administration of the Subcontracting Program

Ms. Felicia Bell, the Manager of the Small Business Programs Office, 4800 Oak Grove Dr., Pasadena, Calif. 91109, is responsible for administration of the Subcontracting Program, with oversight by the Acquisition Division Manager. Duties of the Manager of the Small Business Programs Office include:

- A. Attend national small business conferences/trade fairs as a Contractor representative;
- B. Reporting—Includes all quarterly and annual reports related to the Contractor’s socioeconomic program as submitted to the Contractor’s Office of Contracts Management and NASA/NMO;

- C. Training—Includes small business utilization training facilitated by the Office for the Contractor's personnel, small business training received at NASA Centers and government agencies, and training provided by Small Business Programs Office at small business outreach events;
- D. Small Business Counseling—The Office serves as a liaison between all interested suppliers and the Contractor's end-users;
- E. Award Nominations—Includes review of potential award nominee qualifications in relation to award evaluation criteria, selection of nominees, and preparation of award write-ups and submissions for agency-level awards;
- F. Source Development—Small Business source list development for subcontract managers and source list review and approval;
- G. Review and verify small business size standards;
- H. Review Announcement of Opportunity Proposals—provide Small Business template and collaborate with technical customers;
- I. Review Requests for Proposals—work with the Contractor's Contract Technical Managers and Subcontract Managers to develop socioeconomic goals strategy;
- J. Provide small business advice to the Contractor's Performance Evaluation Review Boards (PERBs);
- K. Serve on Acquisition Strategy Review Board/Non-Comp Board reviews;
- L. Joint-Counseling—facilitate procurement discussions between the Contractor's prime subcontractors and potential lower-tier small business suppliers;
- M. Complete self-assessments of all activities of the Contractor's Small Business Program for submission to NASA/NMO.
- N. Submit semi-annual reports detailing all small business utilization metrics, outreach events, programmatic initiatives, and small business counseling and support in the Contractor's Supplier Diversity Program;
- O. Report the Contractor's socioeconomic business awards to NASA/NMO;
- P. Review Subcontract Plans and provide approval (or rejection) memos to Subcontract Managers; and—
- Q. Host Outreach Events— The Small Business Programs Office periodically reviews the contract goal achievement to date and uses this as a guide as to which areas to target for hosted outreach events. Historical data reflects at least three (3) hosted events typically occur annually.
- R. Examine goals on an annual basis and from time to time make recommendations to NASA if goals need to be updated.

VIII. Efforts to Assure Small Businesses Have Maximum Practicable Equitable Opportunities to Compete for Subcontracts

A. Source Identification

The success of the Contractor's Small Business Program is dependent upon interaction with the small business community and with business development organizations and associations.

Open communication between the Contractor and all the NASA Centers regarding current and upcoming opportunities contributes to a strong networking partnership. It is mainly through this interaction, exchange of information and extensive market research that the Contractor can identify and develop the widest and most effective procurement base within all categories of the small business community.

The Contractor has developed several different areas of contact for the purpose of identifying all categories of small business capabilities and exchanging views on how to promote small business programs. We maintain close coordination with, and often take a participatory role in the following government and private sector organizations:

- Department of Defense (DoD) Western Regional Council for Small Business (formerly named: Southern California Small Business Utilization Council)
- Disabled Veterans Business: The California Alliance
- HUBZone Contractors National Council
- NASA Small Business Specialists Council: Quarterly meetings to discuss small business issues that affect the agency and NASA Centers
- National Association of Small Disadvantaged Businesses
- National Association of Women Business Owners
- Procurement Technical Assistance Centers (PTAC)
- U.S. Small Business Administration, Los Angeles District Office

Another prime source of identification of potential small business suppliers has been through maintaining close and continuous contact with small business development organizations and associations. The Contractor also actively participates in a number of Small Business conferences and outreach efforts. Outreach events attended annually include the:

- Federal Offices of Small Disadvantaged Business Utilization Procurement (OSDBU) Conference
- HUBZone Council Conference
- Keeping the Promise – US Veterans Business Alliance
- SBA Annual Small Business Contracting Conference

- National Veteran Small Business Conference & Expo
- Navy Gold Coast Conference

The Contractor also participates in matchmaking, networking and recognition events sponsored by congressional representatives, government agencies, prime contractors, Chambers of Commerce and minority associations. The Contractor, whenever possible, attends specific conferences requested by NASA.

Furthermore, the Contractor evaluates and reports progress against the established goals by use of a weekly e-mail status on the Small Business Program which is sent to the its Deputy Director, Chief Financial Officer, Acquisition Managers, Acquisition Supervisors, and Subcontract Managers. The NMO and the NASA Office of Small Business Programs are sent semi-annual reports.

As a matter of policy and practice, the Contractor reviews solicitations to remove statements, clauses, etc., which may unduly restrict or prohibit small business participation.

Small Business set-asides will be pursued in instances where adequate competition at fair market prices are identified.

B. Mentor-Protégé Program

The Contractor's Mentor-Protégé Program (MPP) will follow as closely as practicable the NASA MPP to expand the diversity of the Contractor's supplier base and to maintain the Contractor's commitment to enhance and increase small business utilization. The program will be designed to provide participants with access to tools, resources, and training in business development, technical expertise, and procurement performance.

The program will seek to achieve the following:

- Expand the diversity of the Contractor's supplier base;
- Enhance the technical capability of small businesses to successfully bid and manage subcontracts with the Contractor and compete in the federal and prime contractor sectors;
- Increase dollars awarded to small business through establishing Mentor -Protégé subcontracts on a non-competitive basis; and
- Increase dollars awarded to small businesses and meet and exceed socioeconomic goals through the successful training of potential suppliers and through awarding subcontracts to small businesses.

Currently, the Small Business Programs Office is actively pursuing opportunities and strategies to include additional companies in the Mentor-Protégé Program through the following:

- Marketing the program to the Engineering and Science Directorate (3X) and other science and technical directorates as a means of gaining funding or sponsorship of a subcontract for the Technical Development requirements of the Mentor-Protégé Program.

- Partnering with the Contractor's SBIR Office to include Phase II companies in the program. Participation of Phase II companies will assist the Contractor's quest to enhance research and development while mentoring new or emerging small businesses.
- Working with the Contractor's 3X, Education and Human Resources departments to market the MPP to Historically Black Colleges and Universities and Minority Institutions (HBCU/MI).

The Small Business Programs Office administers the Contractor's Mentor-Protégé Program in accordance with the spirit of the NASA's Mentor-Protégé Program while recognizing that Caltech/JPL is an independent contractor.

IX. Subcontract Flowdown Requirement—FAR 52.219-9

A flowdown clause entitled "Utilization of Small Business Concerns" is included in all subcontracts, which offer further subcontracting opportunities. In addition, the Contractor requires that all subcontractors (except small business concerns) which receive subcontracts in excess of stated FAR threshold submit a Small Business Subcontracting Plan, similar to this plan, which is submitted to the Contractor for approval prior to award of subcontract unless a subcontracting plan is not required. A written determination that there are no subcontracting opportunities shall be prepared by the Subcontractor and reviewed by the Acquisition Division and the Small Business Programs Office.

X. Assurances

The Contractor hereby provides its assurance that it will:

- A. Cooperate in specific studies or surveys whenever feasible;
- B. Submit periodic reports so that the Government can determine the extent of compliance by the Contractor with the Subcontracting Plan.
- C. Submit the Individual Subcontract Report (ISR) and/or the Summary Subcontract Report (SSR), using the Electronic Subcontracting Reporting System (eSRS) at <http://www.esrs.gov>. The reports shall provide information on subcontract awards to small business concerns, veteran-owned small business concerns, service-disabled veteran-owned small business concerns, HUBZone small business concerns, small disadvantaged business concerns, women-owned small business concerns, and Historically Black Colleges and Universities and Minority Institutions.
- D. Ensure subcontractors with required subcontracting plans agree to submit the Individual Subcontract Report (ISR) and/or the Summary Subcontract Report (SSR). ISR and the SSR are submitted on a semi-annual basis. Each subcontract, with a subcontract award in excess of stated FAR threshold, is required to report all subcontracting activities.
- E. Provide its prime contract number, its DUNS number, and the e-mail address of the Contractor official responsible for acknowledging or rejecting the reports to all first-tier subcontractors with subcontracting plans so they can enter this information into the eSRS when submitting their reports.

- F. Require that each subcontractor with a subcontracting plan provide the Prime Contract number, its own DUNS number, and the e-mail address of the Contractor official responsible for acknowledging or rejecting the reports, to its subcontractors with subcontracting plans.

XI. Description of Records Kept

The Acquisition Division will maintain the following records:

- A. Copies of solicitations;
- B. Subcontract Plans and approval memos;
- B. Source lists that identify both large and small business and Source list approvals;
- C. Telephone, e-mail, and in-person liaison and counseling support;
- D. Individual Subcontract Report (ISR) and the Summary Subcontract Report (SSR);
- E. Request for Proposals listed on FedBizOpps;
- F. Outreach events supported in order to identify small business sources;
- G. NASA 45-Day Reports on all Contractor outreach events;
- H. Records to support award data submitted by the Contractor to the Government, including name, address and business size of each subcontractor; and—
- I. Records of internal guidance and encouragement provided to the Contractor's buyers ("Acquisition Managers"), including:
 - i. Workshops, seminars and training; and—
 - ii. Monthly Socioeconomic Reports provided to Acquisition Division management and buying personnel as well as the Deputy Director and CFO/Director for Business Operations. (Mod 4)
- J. Monitor performance to evaluate compliance with the program's requirements
- K. The individual procurement files shall maintain records in accordance with [FAR 52.219-9](#).

XII. Additional Assurances

- A. Contractor will make a good faith effort to acquire articles, equipment, supplies, services, or materials, or obtain the performance of construction work from the small business concerns that it used in preparing the bid or proposal, in the same or greater scope, amount, and quality used in preparing and submitting the bid or proposal.
 - i. The Contractor will make a good faith effort to identify a small business concern as a subcontractor in the bid or proposal or associated small business subcontracting plan, to furnish certain supplies or perform a portion of the subcontract; or

- ii The Contractor make a good faith effort to use the small business concern's pricing or cost information or technical expertise in preparing the bid or proposal, where there is written evidence of an intent or understanding that the small business concern will be awarded a subcontract for the related work if the Contractor is awarded the contract.
- B. Contractor will provide a written explanation if the Contractor fails to acquire articles, equipment, supplies, services or materials or obtain the performance of construction work as described above. This written explanation will be submitted 30 days from the date of a request to the Contractor.
- C. Contractor will not prohibit a subcontractor from discussing with the Contracting Officer any material matter pertaining to payment to or utilization of a subcontractor.
- D. Contractor will pay its small business subcontractors on time and in accordance with the terms and conditions of the underlying subcontract, and notify the contracting officer when a prime contractor makes either a reduced or an untimely payment to a small business

XIII.Reporting

The Contractor submits various periodic reports to the Contracting Officer and the NASA Office of Small Business Programs in support of the agency's policies. Reports submitted are as follows:

- A. Per CDRL SU-002, NASA Small Business Program Report is submitted on a semi-annual and annual basis. The purpose of the Small Business Program Report is to facilitate management of the Lab's Small Business Program. The report highlights prime statistics, small business improvement plans, acquisition planning & contract management, outreach, training, special assignments and awards;
- B. Per CDRL SU-004 and SU-003, respectively, Individual Subcontract Report (ISR) and the Summary Subcontract Report (SSR) are submitted on a semiannual basis. Each subcontractor, with a subcontract award in excess of the threshold defined in the FAR is required to report all subcontracting activities. The reports provide an account of dollars subcontracted to small businesses;
- C. Per CDRL SU-005, the 45-Day Report is submitted within 45 days of the culmination of institutional outreach event. The purpose and/or goal of the report is to highlight the key elements of the event, guest speakers, number of attendees, provide the description of workshops and activities, and to reflect upon lessons learned;
- D. Per CDRL SU-006, Subcontracting Status Report is submitted on an annual basis and provides a brief summary of Contractor's progress in goal achievement as well as provides information on challenges that may be impacting goal achievement;
- E. Final Subcontracting Status Report is submitted at the end of the contract period and provides information on the actual dollars awarded against the contract goals identified in the contract.

ATTACHMENT E

CONTRACT DATA REQUIREMENTS LIST (CDRL)

Line Item No.	CDRL NO.	TITLE OR DESCRIPTION OF DATA	FREQUENCY	DUE DATE	REVISION (REVIEW PERIOD)	CONTRACT LOCATION	FORMAT (CONTRACTOR OR SPONSOR)	REQUESTER
1	CM-001	Overrun Reports	As Requested (Mod 4)	As Requested (Mod 4)		F-4, General Reports and Plans, (6), Overrun Reports	Contractor Format	NMO
2	CM-002	Intergovernmental Personnel Act (IPA) Costs Report	Annually	Upon Request		B-5, Allowable Costs, (e)(11), Other Advance Understandings - Intergovernmental Personnel Act (IPA)	Contractor Format	NMO
3	CM-003	Excess Funds on Inactive Task Orders	Quarterly	Due 30 days after the close of the quarter		G-2, Cost Segregation and Reporting, (a)(5), Identification of Excess Funds on Inactive Task Orders	Contractor Format	NMO
4	CM-004	NPD/NPR Implementation Plans, Updates, and Status Reports	As Requested (Mod 4)	As Requested (Mod 4)		G-13, NASA Directives and Government Policies	Contractor Format	NMO
5	EM-001	Five-Year Energy Efficiency and Water Conservation Plan	Once	None Stated for first time	30-day review, 1 revision	This Attachment E, CDRL (Mod 4)	Sponsor Format	NMO E&F Manager
6	EM-002	Update to Five-Year Energy Efficiency and Water Conservation Plan	Every 3 years	Update on a maximum 3-year interval	30-day review, 1 revision	This Attachment E, CDRL (Mod 4)	Sponsor Format	NMO E&F Manager
7	EM-003	Energy and Water Consumption Reports	Quarterly	None Stated		This Attachment E, CDRL (Mod 4)	Sponsor Format	NETS (ED)
8	EM-004	Plan for Reinvestment of cost Savings from Realized Energy and Water Conservation Measures	Semi-Annually	None Stated	30-day review, 1 revision	This Attachment E, CDRL (Mod 4)	Contractor Format	NMO
9	EM-005	Draft Outdoor Environment Master Plan (OEMP)	Once	Within 180 days of the effective date of this Contract		This Attachment E, CDRL (Mod 4)	Contractor Format	NMO
10	EM-006	Energy and Water Consumption Reports - As Required by any Federal State, Local Regulation, NPD, NPR or Executive Order	As Required and as Requested by NASA (Mod 4)	As Required		H-9, Energy Management, (b), Energy and Water Conservation Reports	Contractor Format	NASA
11	EM-007	Office of Management and Budget Circular A-11, Energy and Transportation Efficiency Management Budget Exhibits	Annually	None Stated		This Attachment E, CDRL (Mod 4)	Sponsor Format	NMO
12	EM-008	Energy Management Progress Assessment Report	Annually	None Stated		This Attachment E, CDRL (Mod 4)	Sponsor Format	NMO
13	EV-001	Environmental, Safety and Health System (ESHS) Documentation	Annually	November 1 st		H-45, Integration of Environment, Safety and Health into the	Contractor Format	NMO

Line Item No.	CDRL NO.	TITLE OR DESCRIPTION OF DATA	FREQUENCY	DUE DATE	REVISION (REVIEW PERIOD)	Contractor's Management System, (d)	FORMAT (CONTRACTOR OR SPONSOR)	REQUESTER
14	FA-001	Report on Facilities Leased	Quarterly	None Stated		C-3, Use of Other Facilities and Locations, (d)	Contractor Format	C.O.
15	FA-002	Functional Area Performance Metrics for CoF, Facilities Maintenance, Real Property, Space Utilization, and Environment	Annually	As Requested		G-15, Facilities	Contractor Format	FED
16	FA-003	Use of Facilities Communications Plan	As Requested	As Requested		H-42, Use of Facilities Plan	Contractor Format	NMO
17	FM-001	Payment of Overtime Premiums	Quarterly	None Stated		H-40, Payment of Overtime Premiums	Contractor Format	NMO
18	FM-002	Caltech Transfers	Quarterly	End of month following reporting quarter		F-4, General Reports and Plans, (8), Caltech Transfers	Contractor Format	NMO
19	FM-003	Written updated report or briefing to the Contracting Officer identifying the changes, if any, in the yearly "Net Periodic Cost" and actuarial assumptions	Annually	No later than March 31st of each year		H-55, Post Retirement Benefits, (f)	Contractor Format	NMO
20	FM-004	Interest on Letter of Credit Payments	Monthly	Due 15 days after month end		B-6, Contractor Financing by Letter of Credit (LOC), (c) Interest	Contractor Format	DHHS
21	FM-005	Procedures to Manage the Letter of Credit	Once	Due 60 days after Contract effective date	30-day review, 1 revision	B-6, Contractor Financing by Letter of Credit (LOC), (b)(11), LOC Management Procedures	Contractor Format	NMO
22	FM-006	Letter of Credit Certifications—Standard Form 425, Federal Financial Report	Quarterly	Due 30 days following the end of each Federal fiscal Quarter		B-6, Contractor Financing by Letter of Credit (LOC), (b)(10), LOC Certifications	Sponsor Format	DHHS
23	FM-007	Reconciliation of Expenditures to Letter of Credit Draws	Monthly	None Stated		B-6, Contractor Financing by Letter of Credit (LOC), (b)(8), Monthly Reconciliation	Contractor Format	NMO
24	FM-008	Annual (Final) Allocated Direct Costs and Forecast Report	Annually	None Stated		G-18, Allocated Direct Cost Reporting, (a), Annual Reports	Contractor Format	NMO
25	FM-009	Allocated Direct Costs Report	Monthly	None Stated		G-18, Allocated Direct Cost Reporting, (a)(4)(A), Monthly Reports	Contractor Format	NMO
Line Item No.	CDRL NO.	TITLE OR DESCRIPTION OF DATA	FREQUENCY	DUE DATE	REVISION (REVIEW PERIOD)	CONTRACT LOCATION	FORMAT (CONTRACTOR OR SPONSOR)	REQUESTER

26	FM-010	Monthly Contractor Financial Management Report—NF533M	Monthly	Ten (10) working days after the end of the Contractor's fiscal month		G-2, Cost Segregation and Reporting, (a)(6)(i), NASA Contractor Financial Management Report - Monthly NF 533 Reports	Sponsor Format	NMO/RFO (Mod 3)
27	FM-011	Quarterly Contractor Financial Management Report—NF533Q	Quarterly	Fifteen (15) calendar days prior to the beginning of Contractor's fiscal quarter		G-2, Cost Segregation and Reporting, (a)(6)(ii), NASA Contractor Financial Management Report - Quarterly NF 533 Reports	Sponsor Format	NMO/RFO (Mod 3)
28	FM-012	Allocated Direct Costs Special Report	As Requested	As Requested		G-18, Allocated Direct Cost Reporting, (a)(4)(B)	Contractor Format	NMO
29	FM-013	Public Voucher (No-Pay Voucher)	Monthly	Due 15 working days after the close of the Contractor's fiscal month		I-9, Allowable Cost and Payment (FAR 52.216-7) (JUN 2013) (DEVIATION), (a), Contractor Payments (Mod 4)	Sponsor Format	NMO
30	FM-014	Completion Voucher and Final SF1034	Once	Due upon closeout of all task orders under this Contract		I-9, Allowable Cost and Payment (FAR 52.216-7) (JUN 2013) (DEVIATION), (g)(1) (Mod 4)	Sponsor Format	NMO
31	FM-015	Conferences and Meetings	Once	90 days after effective date of this contract		C-6, Conferences and Meetings, (a) Hosting Conferences and Meetings	Contractor Format	NMO
32	HR-001	Wage and Salary Schedules and Non-Academic Policies	As Requested	Within 15 days of written request by the Contracting Officer		H-6, Wages, Salaries, and Personnel Data, (a), Wage and Salary Policy and Practice	Contractor Format	NMO
33	HR-002	Workforce Data and Occupational Distribution, Educational Levels, Average Age and Average Rate Ranges	Annually	None Stated		H-6, Wages, Salaries, and Personnel Data, (b), Aggregated Data on JPL Work Force	Contractor Format	NMO
34	HR-003	Workforce Reports	Annually	By the 90th day after expiration of the yearly Affirmative Action Plan		F-4, General Reports and Plans, (7), Workforce Reports	Contractor Format	NOE
35	IP-001	Mask Works—Registration and Publication	As Required	Technical report within six months after written disclosure		H-38, Agreement on Establishment of Rights, Technology Transfer, and Distribution of Income with Respect to Mask Works, (a)	Contractor Format	NMO
36	IP-002	Shared Royalty Income	Quarterly	None Stated		H-38, Agreement on Establishment of Rights, Technology Transfer, and Distribution of Income with Respect to Mask Works, (c)	Contractor Format	NMO
37	IP-003	Technology Transfer Plan	Annually	September 30	30-day review, 1 revision	F-4, General Reports and Plans, (9)(ii)(C)	Contractor Format	NMO

Line Item No.	CDRL NO.	TITLE OR DESCRIPTION OF DATA	FREQUENCY	DUE DATE	REVISION (REVIEW PERIOD)	CONTRACT LOCATION	FORMAT (CONTRACTOR OR SPONSOR)	REQUESTER
38	IP-004	NASA Technology Tracking System (NTTS)	Monthly	No later than the 15th of the month for which the data pertains		F-4, General Reports and Plans, (9)(ii)(A), NASA Technology Tracking System (NTTS)	Sponsor Format	NTTS (ED)
39	IP-005	Technology Transfer Report	Annually	January 31		F-4, General Reports and Plans, (9)(ii)(D)	Contractor Format	NMO
40	IP-006	Royalties from Licensing of Intellectual Property Rights on Computer Software Developed	Quarterly	None Stated		H-37, Agreement on Computer Software, (c)	Contractor Format	NMO
41	IT-001	Annual IT Security Awareness Training	Annually	None Stated		1-7, Security Requirements for Unclassified information Technology Resources, NFS 1852.204-76 (JAN 2011) (DEVIATION), (c)(4), Annual IT Security Awareness Training Requirement	Contractor Format	CIO
42	IT-002	Information Technology (IT) Budget Plan	Annually	None Stated	30-day review, 1 revision	H-43, Information Technology, (c)(4)	Contractor Format	CIO
43	IT-003	Assisting NASA by Supplying Data Related to NASA's FISMA Responsibilities	As Requested	None Stated		H-43, Information Technology, (a)	Sponsor Format	SOC
44	OGC-001	NASA Office of the Inspector General Program Procedures	Once	Within 30 days after the effective date of this Contract		H-47, NASA Office of Inspector General Programs, (b), Establish and Maintain Procedures for Cooperating with OIG Audits	Contractor Format	OIG
45	OGC-002	Litigation Management Plan Submission	Annually	First one within 90 days after effective date of this contract		H-44, Litigation Management Plan, (b)	Contractor Format	C.O.
46	OPS-001	Emergency Landing Facility Emergency Operations Plan	Annually	January 14	45-day review, 1 revision	H-50, Aircraft Operations, (a)(1)	Contractor Format	NMO
47	OPS-002	NASA Office of Protective Services (OPS) Directives Visit Authorization Letter (VAL)	Annually	60 days after the effective date		H-36, SECURITY, (a)(8), NPR 1600.2	Contractor Format	NMO
48	PR-001	Property Reporting	Annually	No later than October 30th		G-3, Property Reporting	Sponsor Format	IPO

Line Item No.	CDRL NO.	TITLE OR DESCRIPTION OF DATA	FREQUENCY	DUE DATE	REVISION (REVIEW PERIOD)	CONTRACT LOCATION	FORMAT (CONTRACTOR OR SPONSOR)	REQUESTER
49	PR-002	Contractor-Held Asset Tracking System (CHATS) Report and Capital Asset Report (CAR)	Monthly	Due the 21st day of the month following the calendar month to be reported		H-24, Monthly Property Financial Reporting, (a)	Sponsor Format	CHATS (ED)
50	PR-003	NASA Property in the Custody of Contractors-NF1018	Annually	None Stated		G-1, Listing of Clauses Incorporated by Reference, (II), NASA FAR Supplement Clause 1852.245-73	Sponsor Format	NESS
51	PR-004	Excess and Surplus Equipment	Annually	Due October 10th		This Attachment E, CDRL (Mod 4)	Contractor Format	HQ DPM
52	SMS-001	Safety and Health Plan	Annually	90 days after the effective date of Contract. Updates annually thereafter	30-day review, 1 revision	H-7, Safety, Health, and Mission Assurance, (a)	Contractor Format	NMO
53	SMS-002	Types of Hazardous Operations Performed	Semi-Annually	90 days after Contract award. Updates no less than semi-annually		H-7, Safety, Health, and Mission Assurance, (b)	Contractor Format	NMO
54	SMS-003	OSMA Center Safety and Mission Assurance (SMA) Health Assessment (OCSHA) Report	Annually	The due date specified annually in the Guidance Letter for Fiscal Year XXXX Center Safety and Mission Assurance (SMA) Health Assessment (OCSHA)		H-7, Safety, Health, and Mission Assurance, (d)	Contractor Format	NMO
55	SMS-004	Illness, Incident and Injury Experience Report	Quarterly	None Stated		H-7, Safety, Health, and Mission Assurance, (e)	Contractor Format	C.O.
56	SMS-005	Ground-Based Pressure Vessels Certification Plan	Once	No later than 90 days after the effective date of the Contract		H-7, Safety, Health, and Mission Assurance, (c)	Contractor Format	C.O.
57	SMS-006	SMA Relief	Quarterly	PSO Quarterly Review		G-6 (b)(2), Technical Authority Requirements	Contractor Format	OSMA

Line Item No.	CDRL NO.	TITLE OR DESCRIPTION OF DATA	FREQUENCY	DUE DATE	REVISION (REVIEW PERIOD)	CONTRACT LOCATION	FORMAT (CONTRACTOR OR SPONSOR)	REQUESTER
58	SU-001	Notification to the Contracting Officer of JPL Subcontractor's Material Breach of Its Small Business Subcontracting Plan	As Required	Whenever a JPL Subcontractor fails to comply in good faith with the Plan		G-9, Small Business Subcontracting Plan, (e)	Contractor Format	C.O. and P.O.
59	SU-002	NASA Small Business Program Report	Semi-Annually	None Stated	30-day review, 1 revision	Attachment D, Small Business Subcontracting Plan, XIII.A, Reporting	Contractor Format	NMO
60	SU-003	Summary Subcontract Report	Semi-Annually	30 days following the end of the reporting period		Attachment D, Small Business Subcontracting Plan, XIII.B, Reporting	Sponsor Format	ESRS (ED)
61	SU-004	Individual Subcontract Report (ISR)	Semi-Annually	None Stated		Attachment D, Small Business Subcontracting Plan, XIII.B, Reporting	Sponsor Format	ESRS (ED)
62	SU-005	Institutional Outreach—45-Day Reports	As Required	45 days after the culmination of Institutional Outreach		Attachment D, Small Business Subcontracting Plan, XIII.C, Reporting	Contractor Format	NMO
63	SU-006	Subcontracting Status Reports	Annually (Mod 4)	October 30 th (Mod 4)		Attachment D, Small Business Subcontracting Plan, XIII.D, Reporting	Contractor Format	NMO
64	SU-007	General Provisions in Subcontracts	Once and as Required Thereafter	Within 90 days after the effective date of this Contract	45-day review, 1 revision	H-27, Clause Flowdown Requirement, Subparagraph (e)	Contractor Format	NMO
65	TE-001	Acquisition and Use of Government-Owned Vehicles Report	Annually	Not later than October 15th of each calendar year		H-1, Listing of Clauses Incorporated by Reference, (II), NASA FAR Supplement (48 CFR Chapter 18) Clauses, 1852.223-76	Sponsor Format	FAST (ED)
66	XX-001	Foreign Travel Weekly Report	Weekly	None Stated		G-20, Travel, (c)(2)(iv)	Contractor Format	OIIR
67	XX-002	Foreign Trip Reports	As Requested	As Requested		G-20, Travel, (c)(2)(v)	Contractor Format	OIIR
68	XX-003	Program/Project Management Certification—Requirements for Individuals to Be Certified Under the JPL Certification Program	As Requested	As Requested		This Attachment E, CDRL (Mod 4)	Contractor Format	NHQ
69	XX-004	Program/Project Management Certification—Established Procedure for Certification of Individuals Under the JPL Certification Program	As Requested	As Requested		This Attachment E, CDRL (Mod 4)	Contractor Format	NHQ

Line Item No.	CDRL NO.	TITLE OR DESCRIPTION OF DATA	FREQUENCY	DUE DATE	REVISION (REVIEW PERIOD)	CONTRACT LOCATION	FORMAT (CONTRACTOR OR SPONSOR)	REQUESTER
70	XX-005	Program/Project Management Certification— Assessment of Functional Equivalency to NASA's Program	As Requested	As Requested		This Attachment E, CDRL (Mod 4)	Contractor Format	NHQ
71	XX-006	Program/Project Management Certification— Listing of the Program/Projects that NASA Has Designated Requiring JPL Certification	As Requested	As Requested		This Attachment E, CDRL (Mod 4)	Contractor Format	NHQ
72	XX-007	Program/Project Management Certification— List of Names Who Have Been Certified Using the JPL Certification Program	As Requested	As Requested		This Attachment E, CDRL (Mod 4)	Contractor Format	NHQ
73	XX-008	Estimate of Percentage of EPA-Designated Material Used	Once	At end of Contract		I-1, Listing of Clauses, I. Federal Acquisition Regulation (48 CFR Chapter 1), 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Items (Alt I) (May 2008)	Sponsor Format	NMO
74	XX-009	Planning, Programming, Budgeting, and Execution (PPBE)	Annually	None Stated		B-4, Budgetary Estimates and Funding, (a)	Sponsor Format	NMD
75	XX-010	Report to the Headquarters Export Administrator on actions resulting from self-assessment	Annually	No later than March 31 st of each year		G-14, Export Control Regulations, (h), Annual Self-Assessment	Contractor Format	NHQ

Legend for CDRL No.: CM-Contract Management; EM-Energy and Water Management; (Mod 4) EV-Environmental Affairs; FA-Facilities Division; FM-Financial Management; HR-Human Resources; IP-Intellectual Property; IT-Information Technology; MS-Management System; OGC-Office of the General Counsel; OPS-Office of Protective Services; PR-Property; SMS-Safety and Mission Success (Other than Environmental); SU-Subcontracts; TE-Transportation Efficiency; XX-Miscellaneous.

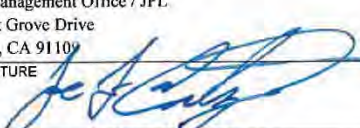
Legend for Requester Organizations: C.O. - Contracting Officer; CHATS (ED)- Contractor Held Assets Tracking System (Electronic Data); DHHS - Department of Health and Human Services; ESRs (ED) - Electronic Subcontracting Reporting System (eSRS); FED - Facilities Engineering Division at Headquarters; FAST (ED) - Federal Automotive Statistical Tool (FAST) web-based reporting tool; RFO - Goddard Regional Finance Office; NHQ - NASA; CIO - NASA Chief Information Officer (CIO); NMO E&F Manager - NMO Environmental and Facilities Manager; NMD - NASA Enterprises (Now called NASA Mission Directories); NETS (ED) - NASA Environmental Tracking System; NOE - NASA Headquarters Office of Education; IRIS (ED) - NASA Incident Reporting Information System; IPO - NASA Industrial Property Officer; OIG - NASA Office of the Inspector General; NHQ - NASA Headquarters; SOC - NASA Security Operations Center; NTTS (ED) - NASA Technology Tracking System (Electronic Data); OIIR - Office of International and Interagency Relations and to HQ Mission Directories.

DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION (The requirements of the DoD Industrial Security Manual apply to all security aspects of this effort.)				1. CLEARANCE AND SAFEGUARDING	
				a. FACILITY CLEARANCE REQUIRED TOP SECRET	
				b. LEVEL OF SAFEGUARDING REQUIRED TOP SECRET	
2. THIS SPECIFICATION IS FOR: (X and complete as applicable)			3. THIS SPECIFICATION IS: (X and complete as applicable)		
<input checked="" type="checkbox"/>	a. PRIME CONTRACT NUMBER 80NM0018D0004		<input checked="" type="checkbox"/>	a. ORIGINAL (Complete date in all cases) DATE (YYYYMMDD) 20180611	
	b. SUBCONTRACT NUMBER			b. REVISED (Supersedes all previous specs)	REVISION NO. DATE (YYYYMMDD)
	c. SOLICITATION OR OTHER NUMBER	DUE DATE (YYYYMMDD)		c. FINAL (Complete Item 5 in all cases) DATE (YYYYMMDD)	
4. IS THIS A FOLLOW-ON CONTRACT?			NO. If Yes, complete the following:		
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			Classified material received or generated under NNN12AA01C (Preceding Contract Number) is transferred to this follow-on contract.		
5. IS THIS A FINAL DD FORM 254?			NO. If Yes, complete the following:		
<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			In response to the contractor's request dated , retention of the classified material is authorized for the period of		
6. CONTRACTOR (Include Commercial and Government Entity (CAGE) Code)					
a. NAME, ADDRESS, AND ZIP CODE California Institute of Technology 1200 E. California Blvd. Pasadena, CA 91125		b. CAGE CODE 80707		c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code) Defense Security Service (S41PA) 3452 East Foothill Blvd., Suite 524 Pasadena, CA 91107	
7. SUBCONTRACTOR					
a. NAME, ADDRESS, AND ZIP CODE N/A		b. CAGE CODE		c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code)	
8. ACTUAL PERFORMANCE					
a. LOCATION California Institute of Technology Jet Propulsion Laboratory 4800 Oak Grove Drive Pasadena, CA 91109		b. CAGE CODE 2D771		c. COGNIZANT SECURITY OFFICE (Name, Address, and Zip Code) Defense Security Service (S41PA) 3452 East Foothill Blvd., Suite 524 Pasadena, CA 91107	
9. GENERAL IDENTIFICATION OF THIS PROCUREMENT (U) Research and Development in support of NASA prime contract.					
10. CONTRACTOR WILL REQUIRE ACCESS TO:		YES	NO	11. IN PERFORMING THIS CONTRACT, THE CONTRACTOR WILL:	
a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION	<input checked="" type="checkbox"/>			a. HAVE ACCESS TO CLASSIFIED INFORMATION ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY	<input checked="" type="checkbox"/>
b. RESTRICTED DATA	<input checked="" type="checkbox"/>			b. RECEIVE CLASSIFIED DOCUMENTS ONLY	<input checked="" type="checkbox"/>
c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION	<input checked="" type="checkbox"/>			c. RECEIVE AND GENERATE CLASSIFIED MATERIAL	<input checked="" type="checkbox"/>
d. FORMERLY RESTRICTED DATA	<input checked="" type="checkbox"/>			d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE	<input checked="" type="checkbox"/>
e. INTELLIGENCE INFORMATION	<input checked="" type="checkbox"/>			e. PERFORM SERVICES ONLY	<input checked="" type="checkbox"/>
(1) Sensitive Compartmented Information (SCI)	<input checked="" type="checkbox"/>			f. HAVE ACCESS TO U.S. CLASSIFIED INFORMATION OUTSIDE THE U.S., PUERTO RICO, U.S. POSSESSIONS AND TRUST TERRITORIES	<input checked="" type="checkbox"/>
(2) Non-SCI	<input checked="" type="checkbox"/>			g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER	<input checked="" type="checkbox"/>
f. SPECIAL ACCESS INFORMATION	<input checked="" type="checkbox"/>			h. REQUIRE A COMSEC ACCOUNT	<input checked="" type="checkbox"/>
g. NATO INFORMATION	<input checked="" type="checkbox"/>			i. HAVE TEMPEST REQUIREMENTS	<input checked="" type="checkbox"/>
h. FOREIGN GOVERNMENT INFORMATION	<input checked="" type="checkbox"/>			j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS	<input checked="" type="checkbox"/>
i. LIMITED DISSEMINATION INFORMATION	<input checked="" type="checkbox"/>			k. BE AUTHORIZED TO USE THE DEFENSE COURIER SERVICE	<input checked="" type="checkbox"/>
j. FOR OFFICIAL USE ONLY INFORMATION	<input checked="" type="checkbox"/>			l. OTHER (Specify)	<input checked="" type="checkbox"/>
k. OTHER (Specify)					

DD FORM 254, DEC 1999

PREVIOUS EDITION IS OBSOLETE.

Adobe Professional 7.0

12. PUBLIC RELEASE. Any information (classified or unclassified) pertaining to this contract shall not be released for public dissemination except as provided by the Industrial Security Manual or unless it has been approved for public release by appropriate U.S. Government authority. Proposed public releases shall be submitted for approval prior to release <input type="checkbox"/> Direct <input checked="" type="checkbox"/> Through (Specify)		
Office of Communications National Aeronautics and Space Administration Washington, DC 20546		
to the Directorate for Freedom of Information and Security Review, Office of the Assistant Secretary of Defense (Public Affairs)* for review. <small>*In the case of non-DoD User Agencies, requests for disclosure shall be submitted to that agency.</small>		
13. SECURITY GUIDANCE. The security classification guidance needed for this classified effort is identified below. If any difficulty is encountered in applying this guidance or if any other contributing factor indicates a need for changes in this guidance, the contractor is authorized and encouraged to provide recommended changes; to challenge the guidance or the classification assigned to any information or material furnished or generated under this contract; and to submit any questions for interpretation of this guidance to the official identified below. Pending final decision, the information involved shall be handled and protected at the highest level of classification assigned or recommended. (Fill in as appropriate for the classified effort. Attach, or forward under separate correspondence, any documents/guides/extracts referenced herein. Add additional pages as needed to provide complete guidance.)		
All classified materials received or generated in connection with this contract will be handled and safeguarded in accordance with the National Industrial Security Program Operating manual (NISPOM), DOD 5220.22-M., Intelligence Community Directives, and requirements set forth in the prime contract with contractor.		
Classified work at JPL conducted on behalf of NASA is conducted in Other Government Agency (OGA) accredited classified space. Joint-Use / Co-Use Agreements are maintained as appropriate.		
Contractor is appointed as the NASA Communications Security (COMSEC) account holder with responsibilities for maintenance of the account as well as support of the Joint Worldwide Intelligence Communications System (JWICS) and Secret Internet Protocol Router (SIPR) networks and terminals.		
There is a NASA accredited SCIF used for joint JPL and NASA discussions. Security management is under the cognizance of the NASA Management Office (NMO) Special Security Officer.		
14. ADDITIONAL SECURITY REQUIREMENTS. Requirements, in addition to ISM requirements, are established for this contract. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(If Yes, identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement which identifies the additional requirements. Provide a copy of the requirements to the cognizant security office. Use Item 13 if additional space is needed.)</small>		
Clause H-36 of the JPL Contract.		
15. INSPECTIONS. Elements of this contract are outside the inspection responsibility of the cognizant security office. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <small>(If Yes, explain and identify specific areas or elements carved out and the activity responsible for inspections. Use Item 13 if additional space is needed.)</small>		
OGA projects have been established in OGA accredited SCIFs and Closed Areas at JPL. These areas are not be subject to inspections by NASA, but instead inspections are conducted by the respective cognizant security office that has accredited those areas.		
16. CERTIFICATION AND SIGNATURE. Security requirements stated herein are complete and adequate for safeguarding the classified information to be released or generated under this classified effort. All questions shall be referred to the official named below.		
a. TYPED NAME OF CERTIFYING OFFICIAL Joe Costanza	b. TITLE Chief of Protective Services	c. TELEPHONE (Include Area Code) (818) 393-0610
d. ADDRESS (Include Zip Code) NASA Management Office / JPL 4800 Oak Grove Drive Pasadena, CA 91109	17. REQUIRED DISTRIBUTION	
e. SIGNATURE 	<input checked="" type="checkbox"/> a. CONTRACTOR <input checked="" type="checkbox"/> b. SUBCONTRACTOR <input checked="" type="checkbox"/> c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR <input checked="" type="checkbox"/> d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION <input checked="" type="checkbox"/> e. ADMINISTRATIVE CONTRACTING OFFICER <input checked="" type="checkbox"/> f. OTHERS AS NECESSARY	

DD FORM 254 (BACK), DEC 1999

SECURITY CLASSIFICATION CRITERIA FOR CONTRACT 80NM0018D0004

Pursuant to the Security requirements clause of the above contract, this is a notification of the security classification of assigned work that will be performed and is issued to supplement the basic DoD Contract Security Classification Specification (DD Form 254).

This contract provides funds for the California Institute of Technology (the “contractor”) to carry out government funded research and development work associated with the mission of NASA and elements of the Department of Defense. The research and advanced development information supporting this work may include classified information up to and including Top Secret. Information obtained or reproduced as a result of such access shall be protected in accordance with NASA or OGA approved security classification guidance, NPR 1600.2, and EO 13526.

For new information being developed, security classification guidance will be provided by program classification guides, policy directives, or individual letters approved by a NASA or OGA original classification authority. For those projects dealing with areas of information, for which no guidance is available, the contractor shall coordinate with the NASA Management Office or the OGA. The Classification Specification assigned shall be in accordance with the provisions of Executive Order 13526, Executive Order 12829, and existing implementing guidelines. Particular attention shall be paid to those achievements which substantially advance “the state of the art” in technology of hardware development or which may have defense support applicability.

The NASA Management Office will review each tentative DD Form 254 to assure appropriate classification and uniformity of classification among programs and will modify if required. The contractor, both for in-house and otherwise controlled activities, which appear to have defense support applicability, shall expeditiously notify the NASA Management Office for classification guidance. No release of material on such tasks may be made until NASA Management Office approval of a revised DD Form 254 is obtained or classification guidance is issued.

ATTACHMENT G

(Mod 3)

Performance Evaluation and Measurement Plan/Award Term Plan

Performance Period
October 1, 2018 – September 30, 2019

1.0 INTRODUCTION

This document, the Performance Evaluation and Measurement Plan (PEMP), along with the Quality Assurance/Surveillance Plan (QASP) serves as the primary evaluation tool of Caltech (hereafter referred to as “the Contractor”) performance regarding the management and operations of the Jet Propulsion Laboratory (hereafter referred to as “JPL or Laboratory”) for the evaluation period from October 1, 2018, through September 30, 2019. The performance evaluation provides a standard by which to determine whether the Contractor is managerially and operationally in control of the Laboratory and is meeting the mission requirement and performance expectations/objectives of NASA as stipulated within the prime contract.

The National Aeronautics and Space Administration (NASA) Jet Propulsion Laboratory Governing Board (JGB) shall serve as the decision-making body for the contents of this PEMP, the Performance Evaluation Board (PEB) and the overall rating within the Contractor Performance Assessment Reporting System (CPARS). The chair of the JGB will serve as the Term Determination Official (TDO).

This document also describes the distribution of the total available performance-based President /Director Research & Development Fund (PDRDF) and the methodology for determining the amount of PDRDF earned by the Contractor. Furthermore, the method and determination of the award term(s) shall be delineated herein. In partnership with the Contractor and key customers, NASA Headquarters (HQ) and the NMO have defined the measurement basis that serves as the Contractor’s performance evaluation.

The Performance Goals (hereafter referred to as Goals), Performance Objectives (hereafter referred to as Objectives) and set of notable outcomes discussed herein were developed in accordance with contract expectations set forth within the contract. The notable outcomes for meeting the Objectives set forth within this plan have been developed in coordination with HQ directorates and functional offices, as appropriate. Except as otherwise provided for within the contract, the evaluation and PDRDF determination will rest solely on the Contractor’s performance within the Performance Goals and Objectives set forth within this plan.

The overall performance against each Objective of this performance plan, to include the evaluation of notable outcomes, shall be evaluated jointly by the appropriate HQ office, major customer and/or the NMO as appropriate. This cooperative review methodology will ensure that the overall evaluation of the Contractor results in a consolidated NASA position taking in to account specific notable outcomes as well as all additional information available to the evaluating team. The NMO shall work closely with each HQ functional office or major customer (directorates) throughout the year in evaluating the Contractor’s performance and will provide observations regarding programs and projects as well as other management and operation activities conducted by the Contractor throughout the year.

Section I provides information on how the performance rating (grade) for the Contractor, as well as how the performance-based PDRDF earned (if any) will be determined. Section I also provides information on the award term eligibility requirements.

Section II provides the table with Goals, their corresponding Objectives, notable outcomes identified, and a table for calculating the final grade for each. The table also requires an overall rollup grade for the contractor from each Mission Directorate and Functional Office.

2.0 SECTION I: DETERMINING THE CONTRACTOR'S PERFORMANCE RATING, PERFORMANCE-BASED PDRDF AND AWARD TERM ELIGIBILITY

The FY 2019 Contractor performance grades for each Goal will be determined based on the individual grades earned for each of the Objectives described within this document for all goals. Each Goal is composed of two or more weighted Objectives. Additionally, a set of notable outcomes has been identified to highlight key aspects/areas of performance deserving special attention by the Contractor for the upcoming fiscal year. Notable Outcomes shall be provided by each Mission Directorate and Functional Office. Each notable outcome is linked to one or more Objectives, and failure to meet expectations against any notable outcome will result in a grade less than B for that Objective(s). Performance above expectations against a notable outcome will be considered in the context of the Contractor's entire performance with respect to the relevant Objective. The following section describes the methodology for determining the Contractor's grades at the Objective level.

2.1 Performance Evaluation Methodology:

The purpose of this section is to establish a methodology to develop grades at the Objective level. Each evaluating office shall provide a proposed grade for each Objective (see Figure 1 below). Each evaluation will measure the degree of effectiveness and performance of the Contractor in meeting the corresponding Objectives.

Rating	Grade	Definition	Note
Exceptional	A	Performance meets contractual requirements and exceeds many to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective.	To justify an Exceptional rating, identify multiple significant events and state how they were of benefit to the Government. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also, there should have been NO significant weaknesses identified.
Very Good	B	Performance meets contractual requirements	To justify a Very Good rating, identify a significant event and

		and exceeds some to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with some minor problems for which corrective actions taken by the contractor was effective.	state how it was a benefit to the Government. There should have been no significant weaknesses identified.
Satisfactory	C	Performance meets contractual requirements. The contractual performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.	To justify a Satisfactory rating, there should have been only minor problems, or major problems the contractor recovered from without impact to the contract/order. There should have been NO significant weaknesses identified. A fundamental principle of assigning ratings is that contractors will not be evaluated with a rating lower than Satisfactory solely for not performing beyond the requirements of the contract/order.
Marginal	D	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being evaluated reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	To justify Marginal performance, identify a significant event in each category that the contractor had trouble overcoming and state how it impacted the Government. A Marginal rating should be supported by referencing the management tool that notified the contractor of the contractual deficiency (e.g., management, quality, safety, or environmental deficiency report or letter).
Unsatisfactory	F	Performance does not meet most contractual requirements and recovery	To justify an Unsatisfactory rating, identify multiple significant events in each

		is not likely in a timely manner. The contractual performance of the element or sub-element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.	category that the contractor had trouble overcoming and state how it impacted the Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g., management, quality, safety, or environmental deficiency reports, or letters).
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Figure 1. FY 2018 Contractor Letter Grade Scale

The Contractor shall be evaluated against the defined levels of performance provided for each Objective under the goals. It is NASA's expectation that the Contractor provides for and maintains management and operational (M&O) systems that efficiently and effectively support the current mission(s) of the Laboratory and assure the Laboratory's ability to deliver against NASA's future needs. In evaluating the Contractor's performance NASA shall assess the degree of effectiveness and performance in meeting each of the Objectives provided under each of the Goals. For institutional services, NASA will rely on a combination of the information through the Contractor's own assurance systems, the ability of the Contractor to demonstrate the validity of this information, and NASA's own independent assessment of the Contractor's performance across the spectrum of its responsibilities and in accordance with the enclosed QASP. The latter might include, but is not limited to operational awareness (daily oversight) activities; formal assessments conducted; "For Cause" reviews (if any); and other outside agency reviews (OIG, GAO, DCAA, etc.).

The mission of the Laboratory is to deliver the science and technology needed to support NASA's missions and other sponsor's needs. Operational performance at the Laboratory meets NASA's expectations (defined as the grade of C) for each Objective if the Contractor is performing at a level that fully supports the Laboratory's current and future science and technology mission(s). Performance that has, or has the potential to, 1) adversely impact the delivery of the current and/or future NASA/Laboratory mission(s), 2) adversely impact NASA and or the Laboratory's reputation, or 3) does not provide the competent people, necessary facilities and robust systems necessary to ensure sustainable performance, shall be graded below expectations as defined in Figure 1, above.

NASA sets our expectations high, and expects performance at that level to optimize the efficient and effective operation of the Laboratory. Performance that might merit grades above C would need to reflect a Contractor's significant contributions to the management and operations at the Laboratory, or recognition by external, independent entities as exemplary performance.

2.2 Calculating Individual Goal Scores and Letter Grades:

Each Objective is assigned a letter grade by the evaluating office as stated above. The Goal rating is then computed, by subjective determination of each Objective grade within a Goal. Each mission directorate and functional office shall provide an overall rollup grade for the contractor. Enclosure 3 provides the template that shall be utilized by each Mission Directorate and Functional Office to perform their respective evaluation. Below is the Goals, Objectives and Notable Outcomes from each mission directorate and functional office. If a mission directorate or functional office does not have a notable outcome, the annual evaluation shall be based on Goals and Objectives. Notable Outcomes shall have a Pass Or Fail grade only.

2.3 Determining the Amount of Performance-Based Fee Earned:

NASA uses the following process to determine the amount of performance-based PDRDF earned by the contractor. The overall grade from each evaluator shall be used to determine an initial overall grade for the contractor, and the rollup grade shall coincide with a dollar value associated with the grade as shown in Table A below. The Contractor shall receive a base amount of \$4M annually. The amount earned above the \$4M shall be based on the below Table.

Grade & Adjectival Rating	Amount above base PDRDF	
A, Exceptional	\$1M	
B, Very Good	\$500K	
C, Satisfactory	NONE	
D, Marginal	NONE	
F, Unsatisfactory	NONE	
Base Amount		\$4M
Total Amount of PDRDF Earned		

Table A: Fiscal Year Contractor Evaluation Calculation and PDRDF Earned

2.4 Adjustment to the Letter Grade and/or PDRDF Amount Determination:

The lack of performance objectives and notable outcomes in this plan do not diminish the need to comply with minimum contractual requirements. Although the Goals and their corresponding Objectives shall be the primary means utilized in determining the Contractor's performance grade and/or amount of PDRDF earned, the Contracting Officer may unilaterally adjust the rating and/or reduce the otherwise earned PDRDF based on the Contractor's performance against all contract requirements as set forth in the Prime Contract. Data to support rating and/or fee adjustments may be derived from other sources to include, but not limited to, operational awareness (daily oversight) activities; "For Cause" reviews (if any); and other outside agency reviews (OIG, GAO, DCAA, etc.), as needed.

The adjustment of a grade and/or addition of otherwise earned PDRDF will be determined by the severity of the performance failure and consideration of mitigating factors. The final Contractor performance-based grades for each Goal and PDRDF earned determination will be contained

within a year-end report, documenting the results from the NASA review and shall be reported within CPARS. The report will identify areas where performance improvement is necessary and, if required, provide the basis for any performance-based rating and/or PDRDF adjustments made from the otherwise earned rating based on Performance Goal achievements.

2.5 Determining Award Term Eligibility:

NASA will determine the Contractor's adjectival rating for the Award Term Option period based on the Contractor's performance as measured against the evaluation areas, performance goals, objectives and notable outcomes. Contractor is eligible to earn award term options at the end of year's one through four of the basic ordering period. The contractor may earn an award term only if graded an A or B during the ordering period associated with the award term option (See Table B below). No award term is awarded to the contractor for an overall grade of C or below. Any remaining award term in excess of 24 months will be removed in the event an "F" grade is received in year 5 or beyond.

At the end of each Award Term Option evaluation, the Performance Evaluation Board (PEB) will make a recommendation to the Term Determination Official (TDO). The TDO, who represents the Government, will make the final Award Term Option Determination in accordance with the Award Term Option Evaluation Plan. Actual Award Term Option determinations and the methodology for determining the Award Term Option are unilateral decisions made solely at the discretion of the Government.

Evaluation Period	Performance Required for Award Term Option	Available Contract Period
Base Period (BASE) October 1, 2018 - September 30, 2023:		
October 1, 2019 - September 30, 2020	Excellent/Very Good (A/B)	Option Period 1 Option Period 2
October 1, 2020 - September 30, 2021	Excellent/Very Good (A/B)	Option Period 3
October 1, 2021 - September 30, 2022	Excellent/Very Good (A/B)	Option Period 4
October 1, 2022 - September 30, 2023	Excellent/Very Good (A/B)	Option Period 5
October 1, 2023 - September 30, 2024	Excellent/Very Good (A/B)	
Option Period 1 (Award term 1) October 1, 2023 - September 30, 2024	Satisfactory or above	
Option Period 2 (Award term 2) October 1, 2024 - September 30, 2025	Satisfactory or above	
Option Period 3 (Award Term 3) October 1, 2025 - September 30, 2026	Satisfactory or above	
Option Period 4 (Award Term 4) October 1, 2026 - September 30, 2027	Satisfactory or above	
Option Period 5 (Award Term 5) October 1, 2027 - September 30, 2028	Satisfactory or above	

Table B: Performance Period and Award Term Options Table

3.0 Section II: PERFORMANCE GOALS, OBJECTIVES & NOTABLE OUTCOMES

Background

The current performance-based management oversight approach within NASA has established a new culture within the Administration with emphasis on the partnership between NASA and the laboratory contractor. It has also placed a greater focus on mission performance, best business practices, cost management, and improved contractor accountability. Under the performance-based management system NASA provides clear direction to the laboratory and develops annual performance plans (such as this one) to assess the contractors performance in meeting that direction in accordance with contract requirements. The NASA policy for implementing performance-based management includes the following guiding principles:

- Performance objectives are established in partnership with affected organizations and are directly aligned to NASA's strategic goals;
- Resource decisions and budget requests are tied to results; and
- Results are used for management information, establishing accountability, and driving long-term improvements.

The performance-based approach focuses the evaluation of the Contractor's performance against these Performance Goals. Progress against these Goals is measured through the use of a set of Objectives. The success of each Objective will be measured based on demonstrated performance by the laboratory, and on a set of notable outcomes that focus laboratory leadership on the specific items that are the most important initiatives and highest risk issues the laboratory must address during the year. These notable outcomes should be objective, measurable, and results-oriented to allow for a definitive determination of whether or not the specific outcome was achieved at the end of the year. Notable Outcomes shall have a Pass Or Fail grade only. A single notable outcome may be categorized within several Goals and Objectives.

Performance Goals, Objectives, and Notable Outcomes

The following sections describe the Performance Goals, their supporting Objectives, and associated notable outcomes for FY 2019. The first table includes the directorates and offices that have not identified notable outcomes, however they will grade the contractor's competencies based on the goals and objectives. The subsequent tables identify the directorate or office at the beginning. The subsequent tables do identify notable outcomes for their respective organizations.

PEMP Goals and Objectives Space Technology Mission Directorate Office of Chief Engineer Office of Strategic Infrastructure Office of Education Office of Small Business Programs Office of Protective Services Office of International and Interagency Relations Office of Legislative Affairs NASA Partnership Office	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	

Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Science Mission Directorate	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Meet or exceed all mission, program and project requirements.	
Objective: 1.2 Provide sound project management, system engineering, software engineering, mission assurance and logistics support in accordance with guidance provided by NASA	
Objective: 1.3 Provide leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration and advance the science community and NASA goals.	
Notable Outcomes: Planetary: <ul style="list-style-type: none"> - Successfully land the InSight spacecraft on Mars and deploy and begin data collection from the SEIS instrument. - Successfully complete the preliminary design review of the Europa Clipper mission and provide all required products for KDP C 	
Notable Outcomes: Astrophysics: <ul style="list-style-type: none"> - Deliver the first flight batch of four Euclid NISP Sensor Chip Electronics modules to ESA - Successfully complete the WFIRST coronagraph instrument (CGI) Preliminary Design Review (PDR) 	
Notable Outcomes: Earth: <ul style="list-style-type: none"> - Produce time-varying gravity fields from the recently launched GRACE-FO mission, after entry into full science mode and in accordance with its Level-1 requirements. - Successfully complete the Prime Mission (1-year) operations on ECOSTRESS, achieving the science identified in the Level-1 requirements. - Successfully complete IOC for OCO-3 and begin science operations. - Successfully complete KaRIn integration on SWOT - Successfully complete EMIT SRR and MDR. 	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Complete contract, tasks, milestones, deliver schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance) on or ahead of schedule	
Notable Outcomes: Planetary: <ul style="list-style-type: none"> - Successfully complete the Europa Clipper mission PDR. - Successfully complete delivery of all Mars 2020 instruments to Assembly Test and Launch Operations (ATLO). 	

Notable Outcomes: Earth: - PODAAC will successfully support the SWOT compatibility test in August 2019 - Successfully complete delivery of the OCO-3 payload to KSC by December 2018 for launch processing - Successfully support EMIT KDP-B	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership, Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically; <ul style="list-style-type: none"> - The timeliness, completeness and quality of problem identification, and resolution - The timeliness, completeness and quality of proposal submittals - The contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy) - The management of key personnel, including providing all project staffing per plans, while meeting or exceeding industry standard for selecting, retaining, supporting, and replacing, when necessary, key personnel, as well as maintaining or improving workforce morale - The maintenance or improvement of customer satisfaction, particularly providing efficient and effective communications and responsiveness to Headquarters and the NMO - The timely award and management of subcontracts. - The completion of project and program plans for mission concept development, and then for mission formation, implementation, and operations. Mission concept development in accordance with NASA Project Life Cycle guidance. 	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Human Exploration and Operations Mission Directorate	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Notable Outcomes: Space Communications and Navigation (SCaN): Maintain a minimum of 95 percent delivery of the Space Communications network services that support NASA and other customers' mission success. Maintain efficiency of the DSN network at or above 95%, with the goal above 99%	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Notable Outcomes: Maintain a minimum of 95 percent delivery of the Space Communications network services that support NASA and other customers' mission success. Maintain efficiency of the DSN network at or above 95%, with the goal above 99%	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	

Notable Outcomes: Maintain a minimum of 95 percent delivery of the Space Communications network services that support NASA and other customers' mission success. Maintain efficiency of the DSN network at or above 95%, with the goal above 99%	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Notable Outcomes: Maintain a minimum of 95 percent delivery of the Space Communications network services that support NASA and other customers' mission success. Maintain efficiency of the DSN network at or above 95%, with the goal above 99%	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Office of Safety and Mission Assurance	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Notable Outcomes: Deliver pressure vessel certification plan and meet or exceed FY19 certification goals in accordance with CDRL SMS-005.	
Notable Outcomes: Ensure safety culture activities exceeds acceptable quality levels stated in the QASP	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Notable Outcomes: Deliver pressure vessel certification plan and meet or exceed FY19 certification goals in accordance with CDRL SMS-005.	
Notable Outcomes: Noncompliance closure (burn down) rates for NASA Safety Center audits and assessments in FY19 should exceed the FY18 Agency Center average	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	

Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Notable Outcomes: Ensure safety culture activities survey exceeds acceptable quality levels stated in the QASP	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Office of Strategic Infrastructure: Aircraft Management Division	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Notable Outcomes: Completion of the proposed updates to and approved exceptions to the NPR 7900.3 Implementation Plan by August 1, 2019	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Notable Outcomes: Completion of the proposed updates to and approved exceptions to the NPR 7900.3 Implementation Plan by August 1, 2019	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	

Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Office of Chief Information Officer	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Notable Outcomes: Provide a draft Transition Plan to OCIO by 28 FEB 2019.	
Notable Outcomes: Provide IT Transition Plan addressing feedback 30 calendar days after final comments notification from OCIO.	
Notable Outcomes: Complete FY 2019 items from the IT Transition Plan.	
Notable Outcomes: Complete NASA CDM tools deployment to according to NASA OCIO approved deployment schedule.	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	

Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Notable Outcomes: Include within the final IT Transition Plan a discussion of the scope of necessary sub-contracting to execute IT aspects of the contract.	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Office of Chief Health and Medical Officer	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Notable Outcomes: Annual Center self-review as stated in NPR1800.1D Chapter 7.6 requires annual submittal, as applicable.	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Notable Outcomes: Annual Center self-review as stated in NPR1800.1D Chapter 7.6 requires annual submittal, as applicable.	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	

Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

(Mod 4)

Performance Evaluation and Measurement Plan/Award Term Plan

Performance Period
October 1, 2019 – September 30, 2020

1.0 INTRODUCTION

This document, the Performance Evaluation and Measurement Plan (PEMP), along with the Quality Assurance/Surveillance Plan (QASP) serves as the primary evaluation tool of Caltech (hereafter referred to as “the Contractor”) performance regarding the management and operations of the Jet Propulsion Laboratory (hereafter referred to as “JPL or Laboratory”) for the evaluation period from October 1, 2018, through September 30, 2019. The performance evaluation provides a standard by which to determine whether the Contractor is managerially and operationally in control of the Laboratory and is meeting the mission requirement and performance expectations/objectives of NASA as stipulated within the prime contract.

The National Aeronautics and Space Administration (NASA) Jet Propulsion Laboratory Governing Board (JGB) shall serve as the decision-making body for the contents of this PEMP, the Performance Evaluation Board (PEB) and the overall rating within the Contractor Performance Assessment Reporting System (CPARS). The chair of the JGB will serve as the Term Determination Official (TDO).

This document also describes the distribution of the total available performance-based President /Director Research & Development Fund (PDRDF) and the methodology for determining the amount of PDRDF earned by the Contractor. Furthermore, the method and determination of the award term(s) shall be delineated herein. In partnership with the Contractor and key customers, NASA Headquarters (HQ) and the NMO have defined the measurement basis that serves as the Contractor’s performance evaluation.

The Performance Goals (hereafter referred to as Goals), Performance Objectives (hereafter referred to as Objectives) and set of notable outcomes discussed herein were developed in accordance with contract expectations set forth within the contract. The notable outcomes within this plan have been developed in coordination with HQ directorates and functional offices, as appropriate. Except as otherwise provided for within the contract, the evaluation and PDRDF determination will rest solely on the Contractor’s performance to the Performance Goals and Objectives set forth within this plan.

The overall performance against each Objective of this performance plan, to include the notable outcomes, shall be evaluated jointly by the appropriate HQ office, major customer and the NMO. This cooperative review methodology will ensure that the overall evaluation of the Contractor results in a consolidated NASA position taking in to account specific notable outcomes as well as all additional information available to the evaluating team. The NMO shall work closely with each HQ functional office or major customer (directorate) throughout the year in evaluating the Contractor’s performance and will provide observations regarding programs and projects as well as other management and operation activities conducted by the Contractor throughout the year.

Section I provides information on how the performance rating (grade) for the Contractor, as well as how the performance-based PDRDF earned (if any) will be determined. Section I also provides information on the award term eligibility requirements.

Section II provides the table with Goals, their corresponding Objectives, notable outcomes identified, and a table for calculating the final grade for each. The table also requires an overall rollup grade for the contractor from each Mission Directorate and Functional Office.

2.0 SECTION I: DETERMINING THE CONTRACTOR'S PERFORMANCE RATING, PERFORMANCE-BASED PDRDF AND AWARD TERM ELIGIBILITY

The FY 2019 Contractor performance grades for each Goal will be determined based on the individual grades earned for each of the Objectives described within this document for all goals. Each Goal is composed of two or more weighted Objectives. Additionally, a set of notable outcomes has been identified to highlight key aspects/areas of performance deserving special attention by the Contractor for the upcoming fiscal year. Notable Outcomes shall be provided by each Mission Directorate and Functional Office. Each notable outcome is linked to one or more Objectives, and failure to meet expectations against any notable outcome will result in a grade less than B for that Objective(s). Performance above expectations against a notable outcome will be considered in the context of the Contractor's entire performance with respect to the relevant Objective. The following section describes the methodology for determining the Contractor's grades at the Objective level.

2.1 Performance Evaluation Methodology:

The purpose of this section is to establish a methodology to develop grades at the Objective level. Each evaluating office shall provide a proposed grade for each Objective (see Figure 1 below). Each evaluation will measure the degree of effectiveness and performance of the Contractor in meeting the corresponding Objectives.

Rating	Grade	Definition	Note
Exceptional	A	Performance meets contractual requirements and exceeds many to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective.	To justify an Exceptional rating, identify multiple significant events and state how they were of benefit to the Government. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also, there should have been NO significant weaknesses identified.
Very Good	B	Performance meets contractual requirements and exceeds some to the Government's benefit. The contractual performance of	To justify a Very Good rating, identify a significant event and state how it was a benefit to the Government. There should

		the element or sub-element being evaluated was accomplished with some minor problems for which corrective actions taken by the contractor was effective.	have been no significant weaknesses identified.
Satisfactory	C	Performance meets contractual requirements. The contractual performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.	To justify a Satisfactory rating, there should have been only minor problems, or major problems the contractor recovered from without impact to the contract/order. There should have been NO significant weaknesses identified. A fundamental principle of assigning ratings is that contractors will not be evaluated with a rating lower than Satisfactory solely for not performing beyond the requirements of the contract/order.
Marginal	D	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being evaluated reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	To justify Marginal performance, identify a significant event in each category that the contractor had trouble overcoming and state how it impacted the Government. A Marginal rating should be supported by referencing the management tool that notified the contractor of the contractual deficiency (e.g., management, quality, safety, or environmental deficiency report or letter).
Unsatisfactory	F	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the	To justify an Unsatisfactory rating, identify multiple significant events in each category that the contractor had trouble overcoming and state how it impacted the

		element or sub-element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.	Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g., management, quality, safety, or environmental deficiency reports, or letters).
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Figure 1. FY 2018 Contractor Letter Grade Scale

The Contractor shall be evaluated against the defined levels of performance provided for each Objective under the goals. It is NASA's expectation that the Contractor provides for and maintains management and operational (M&O) systems that efficiently and effectively support the current mission(s) of the Laboratory and assure the Laboratory's ability to deliver against NASA's future needs. In evaluating the Contractor's performance NASA shall assess the degree of effectiveness and performance in meeting each of the Objectives provided under each of the Goals. For institutional services, NASA will rely on a combination of the information through the Contractor's own assurance systems, the ability of the Contractor to demonstrate the validity of this information, and NASA's own independent assessment of the Contractor's performance across the spectrum of its responsibilities and in accordance with the enclosed QASP. The latter might include, but is not limited to operational awareness (daily oversight) activities; formal assessments conducted; "For Cause" reviews (if any); and other outside agency reviews (OIG, GAO, DCAA, etc.).

The mission of the Laboratory is to deliver the science and technology needed to support NASA's missions and other sponsor's needs. Operational performance at the Laboratory meets NASA's expectations (defined as the grade of C) for each Objective if the Contractor is performing at a level that fully supports the Laboratory's current and future science and technology mission(s). Performance that has, or has the potential to, 1) adversely impact the delivery of the current and/or future NASA/Laboratory mission(s), 2) adversely impact NASA and or the Laboratory's reputation, or 3) does not provide the competent people, necessary facilities and robust systems necessary to ensure sustainable performance, shall be graded below expectations as defined in Figure 1, above. Meeting these expectations shall be evaluated in conjunction with the uniqueness and difficulty of efforts undertaken by the Laboratory.

NASA sets our expectations high, and expects performance at that level to optimize the efficient and effective operation of the Laboratory. Performance that might merit grades above C would need to reflect a Contractor's significant contributions to the management and operations at the Laboratory, or recognition by external, independent entities as exemplary performance.

2.2 Calculating Individual Goal Scores and Letter Grades:

Each Objective is assigned a letter grade by the evaluating office as stated above. The Goal rating is then computed, by subjective assessment of each Objective grade within a Goal. Each mission directorate and functional office shall provide an overall rollup grade for the contractor. Enclosure 3 provides the template that shall be utilized by each Mission Directorate and Functional Office to perform their respective evaluation. Below is the Goals, Objectives and Notable Outcomes from each mission directorate and functional office. If a mission directorate or functional office does not have a notable outcome, the annual evaluation shall be based solely on Goals and Objectives. Notable Outcomes shall have a Pass Or Fail grade only.

2.3 Determining the Amount of Performance-Based Fee Earned:

NASA uses the following process to determine the amount of performance-based PDRDF earned by the contractor. The overall grade from each evaluator shall be used to determine an initial overall grade for the contractor, and the rollup grade shall coincide with a dollar value associated with the grade as shown in Table A below. The Contractor shall receive a base amount of \$4M annually. The amount earned above the \$4M shall be based on the below Table.

Grade & Adjectival Rating	Amount above base PDRDF	
A, Exceptional	\$1M	
B, Very Good	\$500K	
C, Satisfactory	NONE	
D, Marginal	NONE	
F, Unsatisfactory	NONE	
Base Amount		\$4M
Total Amount of PDRDF Earned		

Table A: Fiscal Year Contractor Evaluation Calculation and PDRDF Earned

2.4 Adjustment to the Letter Grade and/or PDRDF Amount Determination:

The lack of performance objectives and notable outcomes in this plan do not diminish the need to comply with minimum contractual requirements. Although the Goals and their corresponding Objectives shall be the primary means utilized in determining the Contractor's performance grade and/or amount of PDRDF earned, the Contracting Officer may unilaterally adjust the rating and/or reduce the otherwise earned PDRDF based on the Contractor's performance against all contract requirements as set forth in the Prime Contract. Data to support rating and/or fee adjustments may be derived from other sources to include, but not limited to, operational awareness (daily oversight) activities; "For Cause" reviews (if any); and other outside agency reviews (OIG, GAO, DCAA, etc.), as needed.

The adjustment of a grade and/or addition of otherwise earned PDRDF will be determined by the severity of the performance failure and consideration of mitigating factors. The final Contractor performance-based grades for each Goal and PDRDF earned determination will be contained within a year-end report, documenting the results from the NASA review and shall be reported within CPARS. The report will identify areas where performance improvement is necessary and, if required, provide the basis for any performance-based rating and/or PDRDF adjustments made from the otherwise earned rating based on Performance Goal achievements.

2.5 Determining Award Term Eligibility:

NASA will determine the Contractor's adjectival rating for the Award Term Option period based on the Contractor's performance as measured against the evaluation areas, performance goals, objectives and notable outcomes. Contractor is eligible to earn award term options at the end of year's one through four of the basic ordering period. The contractor may earn an award term only if graded an A or B during the ordering period associated with the award term option (See Table B below). No award term is awarded to the contractor for an overall grade of C or below. Any remaining award term in excess of 24 months will be removed in the event an "F" grade is received in year 5 or beyond.

At the end of each Award Term Option evaluation, the JGB will make a recommendation to the JGB chair who shall also serve as the Term Determination Official (TDO). The TDO, who represents the Government, will make the final Award Term Option Determination in accordance with the Award Term Option Evaluation Plan. Actual Award Term Option determinations and the methodology for determining the Award Term Option are unilateral decisions made solely at the discretion of the Government.

Evaluation Period	Performance Required for Award Term Option	Available Contract Period
Base Period (BASE) October 1, 2018 - September 30, 2023:		
October 1, 2018 - September 30, 2019	Excellent/Very Good (A/B)	Option Period 1 Option Period 2
October 1, 2019 - September 30, 2020	Excellent/Very Good (A/B)	Option Period 3
October 1, 2020 - September 30, 2021	Excellent/Very Good (A/B)	Option Period 4
October 1, 2021 - September 30, 2022	Excellent/Very Good (A/B)	Option Period 5
October 1, 2022 - September 30, 2023	Excellent/Very Good (A/B)	
Option Period 1 (Award term 1) October 1, 2023 - September 30, 2024	Satisfactory or above	
Option Period 2 (Award term 2) October 1, 2024 - September 30, 2025	Satisfactory or above	
Option Period 3 (Award Term 3) October 1, 2025 - September 30, 2026	Satisfactory or above	
Option Period 4 (Award Term 4) October 1, 2026 - September 30, 2027	Satisfactory or above	
Option Period 5 (Award Term 5) October 1, 2027 - September 30, 2028	Satisfactory or above	

Table B: Performance Period and Award Term Options Table

3.0 Section II: PERFORMANCE GOALS, OBJECTIVES & NOTABLE OUTCOMES

Background

The current performance-based management oversight approach within NASA has established a new culture within the Administration with emphasis on the partnership between NASA and the laboratory contractor. It has also placed a greater focus on mission performance, best business practices, cost management, and improved contractor accountability. Under the performance-based management system NASA provides clear direction to the laboratory and develops annual performance plans (such as this one) to assess the contractors performance in meeting that direction in accordance with contract requirements. The NASA policy for implementing performance-based management includes the following guiding principles:

- Performance objectives are established in partnership with affected organizations and are directly aligned to NASA's strategic goals;
- Resource decisions and budget requests are tied to results; and
- Results are used for management information, establishing accountability, and driving long-term improvements.

The performance-based approach focuses the evaluation of the Contractor's performance against these Performance Goals. Progress against these Goals is measured through the use of a set of Objectives. The success of each Objective will be measured based on demonstrated performance by the laboratory, and on a set of notable outcomes that focus laboratory leadership on the specific items that are the most important initiatives and highest risk issues the laboratory must address during the year. These notable outcomes should be objective, measurable, and results-oriented to allow for a definitive determination of whether or not the specific outcome was achieved at the end of the year. Notable Outcomes shall have a Pass Or Fail grade only. A single notable outcome may be categorized within several Goals and Objectives.

Performance Goals, Objectives, and Notable Outcomes

The following sections describe the Performance Goals, their supporting Objectives, and associated notable outcomes for FY 2019. The first table includes the directorates and offices that have not identified notable outcomes, however they will grade the contractor's competencies based on the goals and objectives. The subsequent tables identify the directorate or office at the beginning. The subsequent tables do identify notable outcomes for their respective organizations.

PEMP Goals and Objectives Office of the Chief Engineer Office of STEM Engagement Office of Small Business Programs Office of Protective Services Office of International and Interagency Relations Office of Legislative and Intergovernmental Affairs NASA Partnership Office Office of Chief Health and Medical Officer	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	

Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31) Table 42-2 in FAR 42.15	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Objective: 5.2 Submission of required reports in eSRS, including the individual Subcontract Report and the Summary Subcontract Report, accurately and on time. Goals entered in the reports shall match the goals in the subcontracting plan. This applies to not only the prime contractor, but also any subcontractors that have subcontracting plans and are thus required to submit the aforementioned reports.	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Science Mission Directorate	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Meet or exceed all mission, program and project requirements.	
Objective: 1.2 Provide sound project management, system engineering, software engineering, mission assurance and logistics support in accordance with guidance provided by NASA	
Objective: 1.3 Provide leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration and advance the science community and NASA goals.	
Objective 1.4: Innovation: Create a culture of continuous innovation and learning that are the cornerstones of a forward-looking program of scientific discovery.	
Notable Outcomes: Planetary: - Europa Clipper will complete the project Critical Design review - Psyche will complete the project Critical Design review	
Notable Outcomes: Astrophysics: - WFIRST coronagraph (CGI) will deliver the initial version of the CGI wave-front sensing and control algorithms - SPHEREx will successfully complete the PDR and meet all criteria required to pass KDP-C	
Notable Outcomes : Earth: - SWOT will successfully complete the SIR and meet all criteria required to pass KDP-D - NISAR will successfully complete the SIR and meet all criteria required to pass KDP-D - EMIT will successfully complete the PDR and meet all criteria required to pass KDP-C	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Complete contract, tasks, milestones, deliver schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance) on or ahead of schedule	
Notable Outcomes: Planetary: - Mars 2020 will meet its planned LRD - Europa Clipper will complete the project Critical Design review - Psyche will complete the project Critical Design review	
Notable Outcomes: Astrophysics: - WFIRST coronagraph (CGI) will deliver the initial version of the CGI wave-front sensing and control algorithms	

- SPHEREx will successfully complete the PDR and meet all criteria required to pass KDP-C	
Notable Outcomes: Earth: - SWOT will successfully complete the SIR and meet all criteria required to pass KDP-D - NISAR will successfully complete the SIR and meet all criteria required to pass KDP-D - EMIT will successfully complete the PDR and meet all criteria required to pass KDP-C	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Demonstrate a sense of cost responsibility in each work effort, through the efficient use of resources.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Provide Leadership, Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order.	
Objective 4.2: Provide Public Communication, Outreach and STEM Engagement by, purposefully and actively, engaging with audiences and learners of all ages to share the story of NASA's integrated science program.	
Objective 4.3 Strategically manage the JPL Workforce in order to ensure that diverse, critical talent is available to meet current and future scientific discovery needs.	

PEMP Goals and Objectives	
Space Technology Mission Directorate	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Notable Outcomes: DSOC will successfully complete Flight and Ground System CDRs and support a successful Psyche CDR.	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	

Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Human Exploration and Operations Mission Directorate	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Notable Outcomes: Space Communications and Navigation (SCaN): Maintain a minimum of 95 percent delivery of the combined Deep Space Network (DSN) Telemetry, Command, and Radiometric data aggregated over the year. For level 1 mission critical events, maintain a minimum of 99 percent delivery for each of DSN Telemetry, Command, and Radiometric data.	
Notable Outcome: Advanced Exploration Systems: Complete laboratory testing of the Spacecraft Atmosphere Monitor (SAM) Unit #2.	
Notable Outcome: Advanced Exploration Systems: Complete on-orbit testing to demonstrate the capability to measure both major atmospheric constituents and trace gas contaminants.	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Notable Outcome: Conduct FY 2020 annual self-assessment by 31 MAR 2020.	
Notable Outcome: Provide to NASA FY 2020 NASA Authorization to Operate per FISMA and NASA requirements as identified in the contract for authorization by 1 DEC 2019.	

Notable Outcome: Provide the NASA Authorizing Official, for approval, all security requirements documents, security plans and memorandums of agreements (MOAs), memorandums of understandings (MOU), interconnection security agreements (ISA) and any other authorized or allowable deviations from security policies by 31 OCT 2019.	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Notable Outcomes: Maintain a minimum of 95 percent delivery of the Space Communications network services that support NASA and other customers' mission success. Maintain efficiency of the DSN network at or above 95%, with the goal above 99%	
Notable Outcomes: Manage cybersecurity requirements for NASA's Deep Space Network, including preparing the NASA Authorization to Operate, conducting annual third-party Assessment and Authorization activities no less than every 12-18 months, and reporting to NASA results of an annual independent internal/self-assessment per NASA/SCaN guidance. Utilize the Risk Information System (RISCS) as security document repository to provide accurate and real time information technology risk information on the operation of the Network. Submit, to NASA, self-identified and assessment driven risks to the Network and a Plan of Action and Milestones to address each input.	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	

Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Office of Safety and Mission Assurance	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Objective 1.5. Develop a means to measure software defect density rates (defects/thousand lines of code) on delivered flight software products provided on NPR 8705.4 Classes A, B missions and assess if tracking software defect density measurements are effective and feasible in improving software quality.	
Notable Outcomes: Submit a new draft pressure vessel systems certification plan to the government by the end of the 1st quarter FY20 in accordance with CDRL SMS-005.	
Notable Outcomes: Disposition the Government's comments on the draft pressure vessel systems certification plan by the end of the 2nd quarter FY20 in accordance with CDRL SMS-005.	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Objective: 2.4. Ensure the FY19 noncompliance closure (burn down) rates for NASA Safety Center audits and assessments (conducted after Oct 2018) are In-family with the previous year's agency average (provided by NASA).	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	

Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Objective: 4.5. Provide safe and healthy working environment to employees by proliferating an effective Safety Culture activities and a robust training program. The safety culture survey implementation will be in line with the Agency survey cycle and the participation rate will be in-family with the previous round agency average (provided by NASA). The contractor will also ensure awareness of the NASA Safety Reporting System, by being in family with the previous year's awareness percentage as indicted by polling in the NSRS exhibit booth.	
Objective 4.6. Provide status of safety culture corrective actions; the monthly Safety Culture Working Group (SCWG) meetings will address communication of findings and recommendations implementation at the Laboratory.	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	

Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Office of Strategic Infrastructure: Aircraft Management Division	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Objective 1.5 Flight Test Plans submitted IAW with AFRC Template (with required reference material and substantiation documentation) with little rework required	
Objective 1.6: CAS subcontractors must possess 14 CFR 135 Certification	
Notable Outcome: Quality Assurance Plan must be submitted prior to July 2020	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Objective 2.4: Chief Engineer and FRR approval must be obtained prior to a request for flight approval	
Objective 2.5 Notifications to AFRC Chief of Flight Operations must be submitted >30 days prior to approval of aircraft flights	
Objective 2.6: FAIRS Quarterly Reporting Requirements submitted within 45 days after the end of each calendar quarter	
Objective 2.7: Provide >10 working days notification for a government inspection to approve and accept a completed installation or modification to an aircraft	

Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes Office of Strategic Infrastructure	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Notable Outcomes: (Real Estate) Successfully complete the strategy for resolving the JPL parking to accommodate all employees vehicles on the lab	
Notable Outcomes: (Real Estate) Successfully complete engineering estimates on real property at Madrid to be followed by records correction.	
Notable Outcomes: (Real Estate) Complete site visit at Canberra and provide strategy for real property incomplete capitalization.	
Notable Outcomes: (Facilities) Successfully provide support to prevent encroachment affecting NASA missions	
Notable Outcomes: (Facilities) Successfully hold quarterly CoF project Status review meeting with HQ staff.	
Notable Outcomes: (EMD) Successfully achieve 80% BPR rating of yellow or above	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	

Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Notable Outcomes: Caltech/JPL activities associated with building 230 phase 3 data center, shall support building completion based on the schedule published, August 8, 2019	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

PEMP Goals, Objectives and Notable Outcomes	
Office of Chief Information Officer	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service	
Objective 1.1: Provide sound system engineering, software engineering, and mission assurance in accordance with guidance provided by NASA OCIO and the IT related contractual requirements.	
Objective 1.2: Provide quality leadership in mission and institutional IT System development.	
Objective 1.3: To ensure requirements of H-43 are successful, the JPL CIO has authority of management, implementation, and operations of IT services and products at JPL as well as investment insight and oversight, policy compliance, and cybersecurity compliance for all JPL IT and information resources.	
Objective 1.4: Provide the NASA Security Operations Center (SOC), in real-time, NASA-defined system logs to NASA's cybersecurity D2E2 (NASA SOC Log Aggregation Splunk) service for: JPL Active Directory, JPL Anti-Virus, JPL Cloud Access Logs, JPL Firewalls, JPL Boundary Routers, JPL Intrusion Detection Systems, JPL Intrusion Prevention Systems, JPL Virtual Private Network gateways, JPL Web Content Filter, JPL Email, JPL Web Application Firewalls, and JPL Domain Name Systems	
Objective 1.5: Provide timely complete responses to emerging requirements	
Notable Outcomes: Provide the first set of system logs defined in Objective 1.4 to the SOC by 15 OCT 2019.	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	
Objective 2.1: Provide acceptable implementations consistent with the new contract requirements or identified in the FY 2019 IT Transition Plan	
Objective 2.2: Provide Acceptable System Security Plans for mission and institutional systems that meet OCIO requirements.	
Objective 2.3: Report within 30 minutes all Cyber potential incidents involving NASA data to the NASA SOC, using the NASA SOC Incident Management System (SOC IMS).	
Objective 2.4: Complete Phase 1, Phase 2 and Phase 3 of NASA CDM tools deployment according to co-scoped deployment schedule.	
Notable Outcomes: Provide NASA required data to NASA for inclusion in the Agency & Federal Dashboard, using PulseSecure, by 31 October 2019.	
Notable Outcomes: Provide draft Implementation Plans identified in the IT Transition Plan to OCIO by 30 MAR 2020.	
Notable Outcomes: Complete JPL IT Systems Inventory categorization, submitted to NASA OCIO, by 20 OCT 2019.	

Notable Outcome: For information systems with a planned FY2020 key decision point, provide acceptable System Security Plans with the appropriate supporting documents, related Plan of Actions and Milestones (POA&Ms), Risk Based Decisions (RBDs), etc. in NASA's Risk Information and Compliance System (RISCS) 8 weeks prior to the planned key decision point.	
Notable Outcomes: Submit to OCIO a schedule to complete Authority to Operate certifications for information systems processing or storing NASA data by 15 NOV 2019.	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Objective 3.3: Provide NASA information system investment data related as required by the Federal Information Technology Acquisition Reform Act.	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Management and Operation of Laboratory IT to include the integration and coordination of all activities needed to execute the contract.	
Objective: 4.2 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO.	
Notable Outcome: Reduce the backlog of unimplemented patches on information systems by 90%	
Notable Outcome: Provide OCIO with a plan to configure JPL IT systems for compliance with FISMA PIV authentication requirements, with a stated goal of reaching 85% for non-privileged network accounts, by 31 March 2020.	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Notable Outcomes: Include within the final IT Transition Plan a discussion of the scope of necessary sub-contracting to execute IT aspects of the contract.	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	

Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	

(NASA ORG—E.G., Office of Safety and Mission Assurance)

Implementation Plan

Directive Information

NPRs and NPDs: [List applicable NPDs/NPRs here; if just a single document, adjust the lead to “NPR:” or “NPD:”]

- 1) (Example: NPR 8000.4, Agency Risk Management Procedural Requirements. NOTE: Please do NOT include the version letter, date, or any change number identifications.)
- 2)
- 3)

NASA Responsible Office: [Fill in—same as first line, above—in this case, “Office of Safety and Mission Assurance”]

Declaration and Exceptions to Requirements

2) Declaration of intent

- a) Consistent with the Article in the Contract entitled “Applicability of Lower-Tier Documents” and except as provided below, the Contractor fulfills the sections of (e.g., “this NPR” “this NPD” or “the documents listed above”) that apply to center personnel, except for inherently governmental functions, as defined in FAR Subpart 7.5 and this Contract.

3) Description of the Contractor’s exceptions, rationale, and risk assessment for not complying

- a) Regarding NPR (specify document number only) _____
 - i) (Exception #1): (Note: For all exceptions, please do not use specific paragraph identifiers. Instead, describe the exception at a high level.)
 - (1) (Rationale for exception #1—e.g., may include a description of what we do and why we think something should be excluded.)
 - (2) (Risk assessment for not complying with exception #1)
 - ii) (Exception #2):
 - (1) (Rationale for exception #2):
 - (2) (Risk assessment for not complying #2):
 - iii) (Etc.)
- b) Regarding NPR (specify document number only)
- c) Regarding NPD (specify document number only)

Surveillance Performance Indicators

(Optional—not required in all cases—if not required by HQ, also delete the heading)

- f) Do not list in detail (because that can change), but describe applicable metrics, CDRLs, and JPL Rules!, training, etc. at a high level.

(Please delete ALL gray parenthetical comments and notes, including this one, when this document is complete.)

ADVANCE AGREEMENT BETWEEN NASA AND CONTRACTOR

(Applicable to FIXED PRICED and COST REIMBURSABLE CONTRACTS)

Regarding Work and Cost Impacts Resulting from the Coronavirus (COVID-19) Situation

(Revised 4/15/2020)

Purpose: To provide a predetermined path forward for NASA Contracting Officers and NASA Contractors regarding work and cost incurrence and reporting for navigating ongoing work and/or interruptions associated with COVID-19.

In response to recommendations from the Centers for Disease Control and Prevention (CDC), Access to NASA Facilities and/or Contractor's facilities has been restricted which has resulted in a stoppage of work. As identified in the Agency's Memo to NASA Contractors signed on March 24, 2020 (enclosed), Contractors shall, "maintain readiness to assume full performance of all contract requirements when the emergency has passed." To facilitate a mobile ready state, NASA has enabled certain flexibilities such as maximizing telework use, identification of alternate work that can be performed remotely, and in accordance with Section 3610 (Federal Contractor Authority) of the "Coronavirus Aid, Relief, and Economic Security Act" (H.R. 748) ("the CARES Act"), for excepted cases of employees who are unable to work remotely. The Contractor shall create a leave category such as Weather and Safety Leave, as appropriate and consistent with the Contractor's personnel policies and practices. The weather and safety leave category shall be utilized to separate the cost associated with employees who have been unable to perform work onsite and who cannot telework.

Ground Rules: Contractors that are working normal, mission essential, or alternate work (examples enclosed) shall continue to record time, charge, and bill applicable contracts utilizing normal charging practices (including submittal frequency).

Excepted cases regarding weather and safety leave (or similar internal company category) shall adhere to the requirements identified below. If employees are put on paid leave to maintain readiness, please record as weather and safety leave for tracking purposes when reporting to NASA. Actions that may result in increased contract costs due to this coronavirus situation should be minimized to the maximum extent practical. If you do consider such actions to be necessary, you are required to notify the NASA contracting officer for your contract. This notification should be done before the additional costs are incurred and should include a breakdown of the estimated costs and detailed rationale for these costs.

Item(s) identified in this agreement have been provisionally agreed to by the Government and Contractor representative

1) Contractor:

California Institute of Technology

2) Contract Number:

80NM0018D0004

3) Contract Title:

Management of the Federally Funded Research and Development Center (FFRDC) known as the Jet Propulsion Laboratory (JPL)

4) Contracting Officer Representatives or Technical POC:

Christine Bonniksen

5) Task Order(s): If needed, provide as an attachment and reference in space below

See Attached List - Data as of April 15, 2020

6) Contract Type:

- ☐ Firm Fixed Price Contract
- ☒ Cost Type Contract
- ☐ Hybrid Contract (List in space below)
- ☐ Other (List in space below)

7) Clause identified in Contract: (for non-labor expenses)

- ☐ NFS 1852.242-72 Denied Access to NASA Facilities FAR
- ☐ 52.242-15 Stop Work Order (including Alternate I)
- ☒ Other (If other than above or multiple clauses, list in space below)

As incorporated in this Contract: 1. FAR 52.249-14, Excusable Delays (APR 1984), FAR 52.242-15, Stop-Work Order (AUG 1989)(ALT I)(APR 1984), 3. FAR 52.243-2, Changes—Cost Reimbursement (AUG 1987)(Alt III, V)(APR 1984)

8) Business Size:

- ☐ Small
- ☐ Large
- ☒ Non-profit / Educational Institution

NOTE: (selection not required; applies automatically)
Section 3610 of the CARES Act is for paid leave of employees only.

Continuity of Work

9) Contractor identified work that will continue, including telework and alternate work.
Document is attached for reference.

- ☒ Yes
☐ No

10) If Yes, provide synopsis in space below

Work to continue, to the extent possible, including by telework and/or alternate work, includes the direct work activities as defined in authorized task orders under Contract 80NM0018D0004, along with all the allocated direct costs activities required thereto. Note, the list of task orders is subject to change as authorized by the Contracting Officer.

Quantity of workforce that will continue performing in the face of denied access or partial stop work order.

11) No. of employees

Refer to the JPL COVID-19 Financial Report, incorporated by reference hereto.

&

Refer to JPL COVID-19 Financial Report, incorporated by reference hereto.

12) % of workforce

13) Are there any known potential impacts due to, including but not limited to, no access to Government Furnished Property (GFP), Government Furnished Material (GFM) or Government Mandatory Inspection Points (GMIP)?

- ☒ Yes
☐ No

14) If Yes, please identify the details below

Under this Contract 80NM0018D0004, the Government provides to the Contractor for use in the performance of the Contract, Government-owned facilities, including, but not by way of limitation, the land, buildings and improvements located at 4800 Oak Grove Drive, Pasadena, California, which are generally referred to as the JPL Oak Grove Facility; the Government-owned facilities at Goldstone Deep Space Communications Complex; and Table Mountain; and all other facilities heretofore made available by the Government for use by the Contractor in the performance of this Contract (including overseas tracking and data acquisition facilities as allowed by the terms of the separate NASA International agreement(s) or contract(s) for which there is a current or anticipated use requirement under this Contract. Access to these resources are being limited and/or denied due to COVID-19 related actions.

Continuity of Work Invoicing Instructions

FOR ONGOING WORK (including mission essential, telework, alternate work, and normal leave status) Contractor submits invoice utilizing Contractor's normal procedures.

NOTE: Refer to normal contract clauses regarding any limitation of funds (e.g. FAR 52.232-20 Limitation of Cost, NFS 1852.232-77 Limitation of Funds Fixed Price Contracts, and NFS 1852.232-81 Contract Funding). Normal Government routing & approval will occur.

NASA Impacts to include Work and Weather & Safety Leave Identification For Excepted Cases Only

(meaning no other work options are available and this status is required to maintain readiness to assume full performance of all contract requirements when the emergency has passed)

15) Please describe the work areas that the contractor is unable to perform after considering any remote work or any other services within scope of the contract (see enclosed alternative work examples) starting from when you had to stop work for activities you could not perform remotely due to COVID-19 (no earlier than January 31, 2020). Please list the individuals by name that are unable to perform work as described above. Explain why no work is available and provide details of whole/partial individuals identified.

The Contractor management of JPL workforce impacted by COVID-19 includes:

- * Maximizing telework
- * Reassigning affected people to meaningful work wherever possible
- * Opening Lab-wide mandatory training opportunities early
- * Providing the Administrative Leave account, referred to as Weather and Safety Leave in this Advance Agreement, as the "last resort" for people experiencing partial or full disruptions to regular schedule due to COVID-19. Examples of significant impacts: fabrication and test, health and safety, quality assurance, facilities support, and various administrative effort.
- * The goal is to preserve skill sets during a temporary displacement in support of the activities as defined in Part 10 above.

The Contractor management of subcontract activities impacted by COVID-19 includes:

- * Assessment/identification of subcontracts impacted by denied/limited access to JPL facilities, as defined in Part 14 of this agreement, or which are otherwise eligible for consideration under the provisions of the CARES Act, with modifications to JPL Subcontracts, in order to maintain a Ready State
- * Request for proposal/identification of impact of denied/limited access from impacted Subcontractors
- * Subject to limitations of funds for this purpose, negotiation of proposals and modification of subcontracts to reflect agreement and to authorize invoicing for those subcontractor employees needed to maintain a Ready State
- * Stipulations in Modifications that authorization to invoice against JPL subcontracts is contingent upon the subcontractor not receiving any other form of adjustment from the CARES Act for a JPL subcontract
- * Requirements in invoice instructions to have a separate invoice or adjustment to a Subcontract Work Order invoicing system using a unique JPL COVID-19 Project/Task Number.
- * The goal is to maintain applicable subcontractor workforce in a Ready State to support the activities as defined in Part 10 above.

A summary of the information described above will be provided to the Contracting Officer in the JPL COVID-19 Financial Report, incorporated by reference hereto.

Quantity of workforce that cannot continue performance that will be placed on weather and safety leave status:

16) No. of employees

Refer to the JPL COVID-19 Financial Report, incorporated by reference hereto.

& Refer to the JPL COVID-19 Financial Report, incorporated by reference hereto.

17) % of workforce

18) As of what date:

03/17/2020

In accordance with the applicability of Sec. 3610 of the CARES Act, this date shall be no earlier than January 31, 2020 when the public health emergency was declared for COVID-19.

Invoicing Instructions for Weather and Safety Leave

If employee is placed in weather and safety leave status (or similar category) this is a direct labor charge to NASA, classified as **COVID-19 NASA Impacts to include weather and safety leave**. All requests for payment subject to the Advance Agreement shall be submitted using a unique invoice number that starts with "CVD19" to convey that the request is for COVID-19 expenses. Invoices submitted in Invoice Processing Platform (IPP) must also have "COVID-19" referenced in the "Invoice Comments" field of the IPP invoice. For non-IPP submitted invoices, support documentation/ attachments must also be clearly marked with "COVID-19" at the top of each page. **NOTE:** This shall include cost associated with NASA work only; shall adhere to current Provisional Billing Rates (including applicable indirect rates); shall not include fee (cost contracts), additional profit (Fixed Price Contracts), or overtime. Per Section 3610 of the CARES Act, funds made available to an agency may be used to reimburse at the minimum applicable contract billing rates not to exceed an average of 40 hours per week any paid leave, including sick leave; a contractor provides to keep its employees or subcontractors in a ready state, including to protect the life and safety of Government and contractor personnel, but in no event beyond September 30, 2020. Invoice shall separate labor and non-labor expenses.

COVID-19 provisional billing shall not exceed the funds allocated to the contract (see contract funding clauses).

NOTE: Refer to normal contract clauses regarding any limitation of funds (e.g. FAR 52.232-20 Limitation of Cost, NFS 1852.232-77 Limitation of Funds Fixed Price Contracts, and NFS 1852.232-81 Contract Funding). Normal Government routing & approval will occur.

The Government will continue to review this agreement pending the continued denied access or partial stop work order.

Contractor shall submit a separate invoice for billing COVID-19 NASA weather and safety leave, coded with the FPDS-NG designation P20C, the National Interest Action code for Coronavirus Disease 2019.

Invoice shall contain the following statement, "Contractor acknowledges that, in accordance with the conditions under Sec. 3610 of the CARES Act, the maximum reimbursement shall be reduced by the amount of credit a contractor is allowed pursuant to division G of Public Law 116-127 and any applicable credits the Contractor is allowed under the CARES Act."

NOTE:

Normal Government routing & approval will be based on provisional rates pending final determination and approval after return to normal status. This agreement serves as the authority for provisional billing of the pending request for equitable adjustment pursuant to Sec. 3610 of the CARES Act

Invoice submission shall adhere to NFS 1852.232-80 and frequency of submission shall remain the same. (NASA intent is to maintain normal billings for employees but segregated to identify costs associated COVID-19 activities)

For prime contractors with subcontractor labor, the prime shall flow-down this guidance with their subcontractors to facilitate Government provisional payment of invoices

Contractor shall demonstrate that employees and subcontractors have received payment for all weather and safety leave (or similar category) invoiced (i.e. identification of employees in this status and certified payrolls).

NOTE: In the event employees do not receive payment, authority for provisional billing may be terminated unilaterally by the Government.

NASA/Contractor Facilities Reopen

RETURN TO NORMAL OPERATIONS

The Government and Contractor shall finalize the Request for Equitable Adjustment (REA) as a result of NFS 1852.242-72, FAR 52.242-15, or other applicable clause. Additional costs, adjustments to services or deliverables, or impact to performance period should be submitted with the final REA, if applicable.

This advance agreement is not intended to establish a binding precedent, practice, or standard operating procedures of either party with regards to any matter addressed herein. This advance agreement is specifically tailored to fit the unique circumstances presented by the current unprecedented Coronavirus (COVID-19) Situation.

Nothing in this advance agreement is intended or shall be construed to relieve the Parties from compliance with Federal law or regulation.

This agreement will be incorporated by modification into subject contract.

19) Has the contractor applied for or plans to apply for a loan through the CARE Act Authorization? (e.g. SBA Loans, etc.)

☐ Yes

☒ No

Note: If funds are received, the Contractor shall inform the Contracting Officer of the amount received & any amount forgiven.

20) ADDENDUM TO ADVANCE AGREEMENT

The contracting officer may use this addendum to make adjustments to this advance agreement for unique circumstances or to streamline the negotiation of the pending equitable adjustment.

A large, empty rectangular box with a thin black border, intended for the contracting officer to make adjustments or streamline negotiations as described in the text above. The box is currently blank.

CONTRACT APPENDIX 1

NASA and Caltech Understanding Concerning the NASA Jet Propulsion Laboratory

This **Contract** appendix provides the historical context of the NASA/JPL relationship. This appendix is a non-binding statement with no contractual implications, and does not augment, supplement or clarify requirements set forth in the **Contract**. Any statements contained in this appendix, including the advantages that NASA currently sees through its relationship with Caltech operating JPL as a university managed FFRDC, do not commit NASA to continuing the relationship. This appendix explains Caltech's and NASA's view on the issues covered herein, but does not commit NASA to any of the precepts set forth in the language. All statements or agreements outside of the **Contract** (including, but not limited to past Memoranda of Understanding) are void.

Background

The foundations for the Jet Propulsion Laboratory ("JPL") were laid in the late 1930's by Professor Theodore von Karman and his graduate students of the Guggenheim Aeronautical Laboratory of the California Institute of Technology ("Caltech"). Their pioneering experiments with rocket engines initially were funded by private Caltech sources, but with the onset of World War II, objectives and sponsorships became entirely military. By 1944, a permanent organization had evolved, and Caltech formally established the "Jet Propulsion Laboratory." In the years that followed, JPL pioneered a series of advanced rocket vehicles, mostly for the Army Ordnance Corps, including Corporal and Sergeant. Finally, JPL developed Explorer I, the United States' first Earth-orbiting satellite.

On December 3, 1958, President Eisenhower transferred the responsibilities for JPL from the Army to the newly created National Aeronautics and Space Administration ("NASA"), together with the Government owned property used by JPL. A contract for research, development and related activities was entered into between NASA and Caltech. That work continues today under Contract 80NM0018D0004.

NASA / CALTECH RELATIONSHIP FOR OPERATION OF THE JET PROPULSION LABORATORY

JPL has a dual character: it is a NASA-owned facility in Pasadena, California, as well as an operating division of Caltech staffed with regular Caltech employees. Caltech has operated JPL as a NASA Federally Funded Research and Development Center (FFRDC) since 1959 to meet certain Government research and development needs which could not be met as effectively by existing Government resources or normal contractor relationships. Contractors operating FFRDCs are allowed access beyond that which is common to the normal contractual relationship, to Government and supplier data, including sensitive and proprietary data, and to Government employees and facilities. As a part of this special relationship, it is also required that JPL be operated in the public interest with objectivity and independence, be free from

organizational conflicts of interest, and have full disclosure of its affairs to NASA. The JPL facility and the employees with their knowledge, shared experiences and traditions of excellence, are together a major national capability. Caltech and NASA each recognize a shared interest in assuring the proper use and maintenance of that national capability, not only for NASA programs but also for other programs of national interest which require the unique capabilities of JPL.

On its part, Caltech is fully committed as set forth in the Contract, as its principal mission at JPL, to carrying out NASA programs, projects and tasks assigned to JPL. In doing so, Caltech recognizes that JPL is a full member of the NASA team and, as such, must recognize and appropriately comply with those applicable laws, regulations, directives and established procedures, as are necessary to the orderly carrying out of NASA's programs and other activities. Caltech also recognizes that in addition to his responsibilities as the head of an operating division of Caltech, the Director of JPL has responsibilities to NASA similar to those of the NASA Center Directors.

It is recognized by Caltech and NASA that JPL through its connection with Caltech represents a unique educational and research resource of significance to the university community generally, and that JPL, in turn, needs close and continuing interaction with broad segments of the university community in order to carry out its mission for NASA. Accordingly, NASA encourages a high degree of interaction between the Caltech Campus and JPL at all levels, and between JPL and the university community. For its part, Caltech recognizes that it must act not only in its own interest but in the interests of the entire university community in carrying out its JPL activities, however; Caltech is still ultimately responsible to NASA for carrying out NASA programs. Caltech has a need and an obligation to facilitate the involvement of the ablest available scientists, engineers, and students from the entire university community in NASA and other Government-sponsored research and development at JPL. Caltech regards its undertaking at JPL not only as a contract, but also as a public trust.

In order to expand further the interaction between the university community and JPL, part-time participation of JPL employees in research supervision and in teaching on the Caltech Campus and with other universities is specifically encouraged by Caltech and NASA, as is the part-time work at JPL by faculty members of the Caltech Campus and other universities. Further, Caltech will make its best effort to promote additional postdoctoral research opportunities at JPL, consistent with JPL's programmatic obligations. Additionally, the part-time utilization of faculty and students at JPL will continue to be encouraged by Caltech. It is understood that these activities should not interfere with the support of NASA programs, and that NASA has the right to review JPL work in these areas for reasonableness and appropriateness.

In line with its responsibility for JPL, Caltech recognizes the continuing need for the management of an advanced technology laboratory such as JPL to have oversight and direction (that is consistent with NASA oversight and direction) from broadly experienced industrial, university, and professional leaders on scientific, technological, programmatic and general management matters. In recognition of this need, the Caltech Board of Trustees has established a JPL Committee of the Board. The Board of Trustees of Caltech will continue to ensure that the Committee is composed of persons with relevant experience and recognized achievements in industry, universities and governmental areas. The Committee will hold regularly scheduled meetings to provide oversight and direction to Caltech/JPL on operating policy and

procedures, relationships with NASA, other Federal agencies, industry, universities and the scientific community.

NASA and Caltech believe that in order to achieve the unique benefits available through the close association of JPL with Caltech, on the one hand, and to meet the JPL responsibility for major programmatic objectives, on the other hand, JPL as an institution must encompass a full spectrum of activities from basic research all the way through to the conduct and management of space flight missions. Further, JPL must be a technical “doing” organization with the fraction of total effort performed in-house highest at the research end of the spectrum of activities. To ensure a synergistic relationship with the U.S. advanced technology industry, JPL will utilize industrial capabilities to the fullest extent reasonable—consistent with the necessity that its technical management be based upon current in-depth technical understanding and first-hand implementation expertise. The necessary balance between maximum utilization of industry, on the one hand, and maintenance and development of credible technical and management skills at JPL, on the other, will be considered by NASA in program implementation decisions. Although NASA can make no commitment to the future balance of JPL directed versus competed programs, NASA’s general goal is to carry out at least one key challenging flight mission in an in-house implementation mode, and other flight systems in various system contract implementation modes appropriate to the distribution of technological inheritance within the industry and at JPL.

JPL, in developing and disseminating advanced technology, has contributed significantly to the growth and capability of U.S. advanced technology industry. Caltech and NASA are committed to the continuation of that process. Caltech, for its part, will make its best effort to interface appropriately with the private sector to facilitate and encourage the dissemination, further development and broad commercial utilization of new technology arising from JPL efforts. JPL will participate in NASA’s Technology Utilization Program to apply aerospace technology from throughout NASA to non-aerospace applications. NASA, for its part, will make its best effort to facilitate the administrative processes involved in fostering the utilization of technology by U.S. industry developed by JPL. NASA’s program to provide potential domestic users early access to NASA-developed technology having significant early commercial potential prior to general publication or export of the technology will be implemented at JPL by an early screening of NASA-sponsored work having such early commercial potential and JPL will consult with NASA on the dissemination of technical data resulting from such work.

NASA and Caltech recognize the importance of JPL to the Nation and believe that judicious efforts by JPL to identify and seek potential, appropriate work which is sponsored by agencies other than NASA, but which benefit NASA programs and makes use of JPL’s special competencies or falls within their purpose or mission is encouraged. NASA and Caltech believe that the facilities at JPL should be at a level of quality and functional capability as is necessary to maintain JPL in the forefront of space research and development. A review of facility requirements will be conducted by JPL annually and NASA will take the results of those reviews into consideration in the annual budgetary cycles.

NASA recognizes the special character of JPL within the NASA family and the desirability of maximizing the benefits which this university-related, FFRDC can bring to NASA. In carrying out its mission JPL will adopt programmatic management policies and practices compatible with those elsewhere in the Agency and will strive to achieve the highest levels of performance,

safety, and cost effectiveness. While recognizing the importance of its interface with NASA, the Laboratory will conduct its business, administrative, and personnel affairs in a manner consistent with its role as an operating division of Caltech, and it will seek to adopt the best business practices available. NASA will consider JPL's FFRDC status as a university managed FFRDC and other factors to ensure that Government policies to be applied to JPL are appropriate.

The NASA Management Office Performance Appraisal Process

Performance Evaluation and Measurement Plan/Award Term Plan Preparation Guidance

(TBD)

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The NASA Management Office Laboratory Performance Appraisal Process and Performance Evaluation and Measurement Plan Preparation Guidance

1.0 Purpose

This document explains the process the NASA Management Office (NMO) uses each year to evaluate the performance of its laboratory. It also provides instructions and a framework (in the form of templates) that the NMO uses to prepare the annual Performance Evaluation and Measurement Plans (PEMP) specific to the laboratory. Furthermore, the instructions outline the evaluation, reporting and award of fees/terms on an annual basis.

2.0 Background

The NMO is responsible for the effective stewardship of NASA's Federally Funded Research and Development Center (FFRDCs), commonly called the Jet Propulsion Laboratory (JPL). This institution is operated by non-federal organizations under a Sponsoring Agreement administered through a task order contract. The IDIQ contract requires, that NASA annually assess the contractors' scientific, technological, managerial, and operational performance. These evaluations provide the basis for determining the total amount of President/Director Research & Development Fund (PDRDF) earned by the contractor and their eligibility for earning additional years.

The NMO's performance-based approach provides a common structure and scoring system for its laboratory. Structured around seven Performance Goals, each comprised of a small number of Objectives (see Enclosure 1 for the list), the system emphasizes the importance of delivering the science and technology (S&T) necessary to meet the missions of NASA and the necessity for operating the laboratory in a safe, secure, responsible and cost-effective way. It also recognizes the leadership, stewardship and value-added management provided by the contractor. Within each Objective, NASA can also identify a small number of notable outcomes that illustrate or amplify important features of a laboratory's performance for the coming year. The Performance Goals, Objectives, and notable outcomes are documented at the beginning of each year in a PEMP that is appended to the laboratory contract. The PEMP's serve as the evaluation template for the laboratory at the close of the fiscal year.

Definitions for each of the measurement levels are as follows:

- **Performance Goal:** A general overarching statement of the desired outcome for each major performance area that is scored and reported annually under the appraisal process.
- **Performance Objective:** A statement of desired results for an organization or activity that is scored and reported annually under the appraisal process.
- **Notable Outcome:** Statements that specifically are intended to focus laboratory leadership on the specific items the members of the NASA leadership team believe are the most important initiatives and/or highest risk issues the laboratory must

address in the coming fiscal year. Notable outcomes must be clearly linked to an Objective in the annual PEMP, and are either met, or not met.

In addition, the NMO appraisal process shall utilize the CONTRACTOR PERFORMANCE ASSESSMENT REPORTING SYSTEM (CPARS) rating adjectival definitions to provide feedback. The adjectival rating definitions shall also be assigned grades that will coincide with commonly used grading system at any university. Hence, in the NMO's evaluation system, grades of "C" are awarded for performance at the objective level that meets expectations for performance, with correspondingly higher and lower grades awarded for performance above and below the "C" level.

The following adjectival ratings with definitions (per CPARS Guidance Attachment 2 and FAR 42.1503, Table 42-1) and corresponding grades shall be utilized:

Evaluation Ratings Definitions

Rating	Grade	Definition	Note
Exceptional	A	Performance meets contractual requirements and exceeds many to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective.	To justify an Exceptional rating, identify multiple significant events and state how they were of benefit to the Government. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also, there should have been NO significant weaknesses identified.
Very Good	B	Performance meets contractual requirements and exceeds some to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with some minor problems for which corrective actions taken by the contractor was effective.	To justify a Very Good rating, identify a significant event and state how it was a benefit to the Government. There should have been no significant weaknesses identified.
Satisfactory	C	Performance meets contractual requirements. The contractual	To justify a Satisfactory rating, there should have been only minor problems, or major

		performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.	problems the contractor recovered from without impact to the contract/order. There should have been NO significant weaknesses identified. A fundamental principle of assigning ratings is that contractors will not be evaluated with a rating lower than Satisfactory solely for not performing beyond the requirements of the contract/order.
Marginal	D	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being evaluated reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	To justify Marginal performance, identify a significant event in each category that the contractor had trouble overcoming and state how it impacted the Government. A Marginal rating should be supported by referencing the management tool that notified the contractor of the contractual deficiency (e.g., management, quality, safety, or environmental deficiency report or letter).
Unsatisfactory	F	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.	To justify an Unsatisfactory rating, identify multiple significant events in each category that the contractor had trouble overcoming and state how it impacted the Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g., management, quality, safety,

			or environmental deficiency reports, or letters).
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3.0 Roles and Responsibilities

This section identifies and describes the roles and responsibilities for execution of the NMO's laboratory performance appraisal process and shall be carried out as described within this document and any supplemental guidance that may be issued by the NASA Management Office and/or Office of Procurement, NASA HQ.

3.1 DIRECTOR, NASA MANAGEMENT OFFICE (NMO-1)

- Approves the laboratory performance appraisal process, the evaluation criteria and methodology, and any major updates/changes to the process, and ensures its effective implementation across the FFRDC complex.
- Owns the content of the annual PEMP's and approves the notable outcomes, for the laboratory contractor.
- Serves as the Chair of the Performance Evaluation Board and shall be the Term Determination Official (TDO).
- Serves as the Reviewing Official (RO) as defined in the CPARS Guideline. The RO provides the check-and-balance when there is disagreement between the AO and the contractor. The RO must review and sign the evaluation when the contractor indicates non-concurrence with the CPAR.
- Leads a formal meeting of the Associate Administrators (AAs) following the end of the fiscal year to normalize their proposed grades for the laboratory, and conducts any necessary subsequent conversations to ensure the grades are developed in a consistent, objective, and fair manner across the laboratory.
- Leads, with support from the Deputy Director for the NMO and the Procurement Officer, formal evaluation debriefings with the laboratory director to communicate year-end performance information to them.

3.2 DEPUTY DIRECTOR, NASA MANAGEMENT OFFICE (NMO-2)

- Leads a meeting of the Deputy Associate Administrators (DAAs), before each fiscal year, of the Mission Directorates and functional officers to develop proposed notable outcomes for all Goals and provides a recommendation to NMO-1 for their approval.
- Participates in NMO-1's formal evaluation debriefings with the laboratory director to communicate year-end performance information to them.

3.3 PROCUREMENT OFFICER, NASA MANAGEMENT OFFICE (NMO-3)

THE PROCUREMENT OFFICER SHALL BE THE ASSESSING OFFICIAL (AO) AS DEFINED IN THE CPARS GUIDELINES AND IS RESPONSIBLE FOR CONTRACTING OR OVERALL PROGRAM EXECUTION AND IS RESPONSIBLE FOR PREPARING, REVIEWING, SIGNING, AND PROCESSING THE CPAR.

3.4 DIRECTORATE, STAFF OFFICES AND MISSION SUPPORT DIRECTORATE FUNCTIONAL OFFICES

The AA for each directorate, staff office or functional office shall provide input for performance objectives and notable outcomes expected for the upcoming fiscal year. AAs shall also provide evaluations, on an annual basis (minimum) to determine grades, PDRDF and award term(s) for the contractor.

3.5 OTHER DEPARTMENTAL PROGRAM OFFICES AND CUSTOMERS

PROVIDE OVERSIGHT AND INPUT OF CONTRACTOR PERFORMANCE DURING THE EVALUATION PERIOD.

4.0 Development of the Performance Evaluation and Measurement Plan

This section describes the processes the NMO-2 uses to develop, review and approve the annual PEMP, including information about their structure and format. The NMO shall develop the PEMP in accordance with the guidance in this document and all required templates (see Enclosures 1-6). As necessary, NMO-3 will provide the offices, directorates, and all relevant HQ program and staff offices with supplemental guidance that identifies changes to: the Performance Goals and/or Objectives; the grade and/or scoring methodology; fee or other incentive determination methodology; and any other changes to the process.

4.1 PEMP INTRODUCTION SECTION

Each PEMP includes a standard introduction section (see Enclosure 2) that captures the following information:

- The definitions of the three measurement levels of the PEMP (i.e., Performance Goals, Performance Objectives, and notable outcomes);
- The methodology the NMO shall use to evaluate the contractor's performance against the Performance Goals, Performance Objectives, and notable outcomes at the end of the performance period;
- The amount of performance-based fee (PDRDF) available to the contractor for the performance period, if applicable; and

- The methodology the NMO shall use to determine the grades and the amount of fee and/or award term earned by the contractor; and for the Contracting Officer (CO) to make unilateral adjustments to the determinations thereof.

4.2 PERFORMANCE GOALS, OBJECTIVES, AND NOTABLE OUTCOMES SECTION

The PEMP shall include a “Performance Goals, Objectives, and Notable Outcomes” section that describes the Performance Goals, their supporting Objectives, and provides the associated notable outcomes. The PEMP shall utilize the standard set of Performance Goals and corresponding Objectives exactly as provided within Enclosure 1, unless otherwise modified by NMO-1.

Suggestions for adjustments or changes to the Performance Goals and Performance Objectives for the next fiscal year are to be provided to the deputy director of the NMO. NMO-2 will coordinate the review/approval of suggested changes, to include distribution to the directorates and functional offices, as appropriate. Changes to the list of Performance Goals and/or Objectives shall be communicated to the offices via supplemental guidance to be issued by NMO-2.

4.3 NOTABLE OUTCOMES

The laboratory PEMP shall include a set of notable outcomes approved by NMO-1. Notable outcomes are intended to focus the laboratory leadership team on the specific items that the members of the NASA leadership team believe are the most important initiatives and/or highest risk issues the laboratory must address in the coming year. In working to develop notable outcomes, NASA managers should consider critical priorities and commitments made in the most recent annual laboratory plans and/or other high-priority site documents and plans.

Notable outcomes must be clearly linked to an Objective in the annual PEMP, but they are not required for every Objective; notable outcomes shall not be weighted. The wording of the notable outcomes should be objective, measurable, and results-oriented to allow for a definitive determination at the end of the year of whether or not the specific outcome was achieved. Notable outcomes should not re-state general expectations already described in the Objective and subjective wording should be avoided. As appropriate, NASA managers should work with the laboratory and/or the contractor in the determination of what is measurable, appropriate, and achievable as a notable outcome.

Notable outcomes are either met, or not met; they are not given a numerical score or a letter grade at the end of a fiscal year. Achievement of a notable outcome is a prerequisite for meeting the directorate and/or functional offices’ expectations and receiving a “B” grade or higher.

4.4 MAKING CHANGES/MODIFICATIONS TO AN APPROVED PEMP

Although not recommended, changes/modifications to an approved PEMP may be necessary from time to time. Proposed changes/modification to assigned goals/objective/notable outcomes shall be coordinated with NMO-2 prior to being executed. A proposed change/modification to an assigned notable outcome shall be coordinated by NMO-2 and approved by NMO-1.

5.0 Evaluating Performance, Developing the Annual Assessment Report, and Final Review/Approval of Grades

The performance-based appraisal process for evaluating its contractors' success in managing and operating the laboratory utilizes the standardized PEMP discussed in Section 4.0 above, and comprises an evaluation by the NASA leadership team, as well as all other relevant customers. This cooperative review methodology will ensure that the overall evaluation of the contractor results in a consolidated NASA position on the contractors' performance. The responsibilities of those with roles in the evaluation process are identified and described in Section 3.0, above, and the preliminary schedule for the evaluation process shall be in accordance with the CPARS process.

The following sub-sections provide general guidance for the evaluation of contractor performance in accordance with the approved PEMP, the development of the annual laboratory contractor performance evaluation report and review and approval process.

The annual assessment shall follow the standard CPARS Guidelines. The below performance goals are directly taken from the CPARS seven evaluation areas to rate the contractor's performance –

Performance Goal	Grade
1.0 Quality/Technical of Product or Service	
2.0 Schedule/Timeliness	
3.0 Cost Control	
4.0 Management or Business Relations	
5.0 Small Business Subcontracting	
6.0 Regulatory Compliance	
7.0 Other	

Figure 1. Laboratory Report Card

5.1 ADJUSTMENT TO THE LETTER GRADE

The Performance Goals and their corresponding Performance Objectives are to be the primary means used by evaluators to determine the contractor's performance grades and/or the amount of performance-based fee earned. However, COs may unilaterally make a recommendation to adjust the ratings based on the contractor's

performance against all contract requirements. Such a decision is based on the severity of the performance failure and consideration of mitigating factors. NMO-1 is responsible for making the final determinations about the contractor's performance grades and any fee to be earned based on performance.

5.2 DETERMINING AWARD TERM ELIGIBILITY

The process utilized to determine a contractor's eligibility to earn contract award term extensions depends on the results of the laboratory appraisal process.

The Contractor must earn an Exceptional (A) or Very Good (B) adjective rating for the first year of Contract period (Oct 1, 2018 – Sept 30, 2019) and each sequential period to earn additional one-year periods (two years may be earned in Base Period 4), not to exceed a total contract period of performance of ten years. In the event that the Contractor earns a rating less than Satisfactory during any contract period, no additional term will be earned and the contractor will lose one year of award term earned (if any). In addition, the Government may initiate negotiation of a new contract at the end of the Contract option period or previously earned contract year(s), per the Performance Evaluation Management Plan. In order to allow sufficient time for the Government to re-procure services, the Government may require continued performance of any services within the limits and at the rates specified in the Contract in accordance with Sections F-5 and H-32.

At the end of each Award Term Option evaluation, the Performance Evaluation Board (PEB) will make a recommendation to the Term Determination Official (TDO). The TDO, who represents the Government, will make the final Award Term Option Determination in accordance with the PEMP which shall serve as the Award Term Option Evaluation Plan. Actual Award Term Option determinations and the methodology for determining the Award Term Option are unilateral decisions made solely at the discretion of the Government.

The CO shall prepare a one page Award Term Decision Document which shall be submitted to NMO-1 along with the annual contractor performance evaluation presentation for approval by NMO-1 (see Enclosure 7). NMO-1, acting in his/her capacity as the Award Term Determining Official, is responsible for making the final determination regarding whether a contractor has earned the award term.

5.3 EVALUATION DEBRIEFINGS WITH THE LABORATORY

In accordance with CPARS guidance and following the completion of evaluation of the laboratories' performance, and prior to the evaluation rollout, NMO-1 shall chair individual meetings with the laboratory management to debrief them on the results of their respective evaluations.

5.4 PERFORMANCE REVIEW SCHEDULE

Date	Activity
June 1	Begin discussion on upcoming goals
September 30	Final goals received by Contractor
October–December	NASA assessments for previous year Contractor self-assessment for previous year
January–February	Pre-final CPARS assessment feedback and individual meetings for previous year (Mod 4)
March 15	Final CPARS assessment from NASA Board for previous year (Mod 4)
March 15–April 29	CPARS Feedback and Office/Directorate Meetings for previous year (Mod 4)
April 30	Final CPARS and award term determination for previous year (Mod 4)
May 15	Last day for Contractor to appeal for previous year (Mod 4)

Enclosure 1. PEMP Goals & Objectives

The Performance Goals and Performance Objectives indicated below shall be used as provided unless otherwise changed and approved by the Director of the NMO. Changes to the Goals and/or Objectives shall be incorporated into this enclosure via formal, written changes to the procedures and guidance for the laboratory performance appraisal process.

PEMP Goals, Objectives and Notable Outcomes:

- 1.0 Provide for **Quality/Technical** Product or Service and Effective Mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)
 - 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project
 - 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA
 - 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.
 - 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.
- 2.0 Provide **Schedule/Timeliness** (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)
 - 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).
 - 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.
 - 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.
- 3.0 Provide for Efficient and Effective **Cost Control** (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.29)
 - 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.
 - 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.
- 4.0 Provide **Management and/or Business Relations** (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)
 - 4.1 Leadership and Stewardship of the Laboratory

- 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.
 - 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.
 - 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO
- 5.0 **Small Business Subcontracting** (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)
- 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan
- 6.0 **GOAL: Regulatory Compliance** (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)
- 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor regulations as well as any other reporting requirements in the contract terms and conditions.
 - 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments
- 7.0 **GOAL: Other Areas** (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)
- 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.

Enclosure 2. PEMP Introduction Template

NMO-2 shall utilize this template for the introduction section of the PEMP. It shall be incorporated as provided herein into the final draft PEMPs.

INTRODUCTION

This document, the Performance Evaluation and Measurement Plan (PEMP), along with the Quality Assurance/Surveillance Plan (QASP) serves as the primary evaluation tool of Caltech (hereafter referred to as “the Contractor”) performance regarding the management and operations of the Jet Propulsion Laboratory (hereafter referred to as “JPL”) for the evaluation period from October 1, YEAR, through September 30, YEAR. The performance evaluation provides a standard by which to determine whether the Contractor is managerially and operationally in control of the Laboratory and is meeting the mission requirement and performance expectations/objectives of NASA as stipulated within this contract.

This document also describes the distribution of the total available performance-based PDRDF and the methodology for determining the amount of PDRDF earned by the Contractor. Furthermore, the method and determination of the award term(s) shall be delineated herein. In partnership with the Contractor and key customers, NASA Headquarters (HQ) and the NMO have defined the measurement basis that serves as the Contractor’s performance-based evaluation.

The Performance Goals (hereafter referred to as Goals), Performance Objectives (hereafter referred to as Objectives) and set of notable outcomes discussed herein were developed in accordance with contract expectations set forth within the contract. The notable outcomes for meeting the Objectives set forth within this plan have been developed in coordination with HQ directorates and functional offices, as appropriate. Except as otherwise provided for within the contract, the evaluation and PDRDF determination will rest solely on the Contractor’s performance within the Performance Goals and Objectives set forth within this plan.

The overall performance against each Objective of this performance plan, to include the evaluation of notable outcomes, shall be evaluated jointly by the appropriate HQ office, major customer and/or the NMO as appropriate. This cooperative review methodology will ensure that the overall evaluation of the Contractor results in a consolidated NASA position taking in to account specific notable outcomes as well as all additional information available to the evaluating team. The NMO shall work closely with each HQ functional office or major customer (directorate) throughout the year in evaluating the Contractor’s performance and will provide observations regarding programs and projects as well as other management and operation activities conducted by the Contractor throughout the year.

Section I provides information on how the performance rating (grade) for the Contractor, as well as how the performance-based PDRDF earned (if any) will be determined. As applicable, also provides information on the award term eligibility requirements.

Section II provides the table with Goals, their corresponding Objectives, notable outcomes identified, and a table for calculating the final grade for each. The table also requires an overall rollout grade for the contractor from each Mission Directorate and Functional Office.

I. DETERMINING THE CONTRACTOR'S PERFORMANCE RATING, PERFORMANCE-BASED PDRDF AND AWARD TERM ELIGIBILITY

The FY *YEAR* Contractor performance grades for each Goal will be determined based on the individual grades earned for each of the Objectives described within this document for all goals. Each Goal is composed of two or more weighted Objectives. Additionally, a set of notable outcomes has been identified to highlight key aspects/areas of performance deserving special attention by the Contractor for the upcoming fiscal year. Notable Outcomes shall be provided by each Mission Directorate and Functional Office. Each notable outcome is linked to one or more Objectives, and failure to meet expectations against any notable outcome will result in a grade less than B for that Objective(s). Performance above expectations against a notable outcome will be considered in the context of the Contractor's entire performance with respect to the relevant Objective. The following section describes the methodology for determining the Contractor's grades at the Objective level.

Performance Evaluation Methodology:

The purpose of this section is to establish a methodology to develop grades at the Objective level. Each evaluating office shall provide a proposed grade for each Objective (see Figure 1 below). Each evaluation will measure the degree of effectiveness and performance of the Contractor in meeting the corresponding Objectives.

Rating	Grade	Definition	Note
Exceptional	A	Performance meets contractual requirements and exceeds many to the Government's benefit. The contractual performance of	To justify an Exceptional rating, identify multiple significant events and state how they were of benefit to the Government. A singular benefit, however, could

		the element or sub-element being evaluated was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective.	be of such magnitude that it alone constitutes an Exceptional rating. Also, there should have been NO significant weaknesses identified.
Very Good	B	Performance meets contractual requirements and exceeds some to the Government's benefit. The contractual performance of the element or sub-element being evaluated was accomplished with some minor problems for which corrective actions taken by the contractor was effective.	To justify a Very Good rating, identify a significant event and state how it was a benefit to the Government. There should have been no significant weaknesses identified.
Satisfactory	C	Performance meets contractual requirements. The contractual performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.	To justify a Satisfactory rating, there should have been only minor problems, or major problems the contractor recovered from without impact to the contract/order. There should have been NO significant weaknesses identified. A fundamental principle of assigning ratings is that contractors will not be evaluated with a rating lower than Satisfactory solely for not performing beyond the requirements of the contract/order.

Marginal	D	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being evaluated reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	To justify Marginal performance, identify a significant event in each category that the contractor had trouble overcoming and state how it impacted the Government. A Marginal rating should be supported by referencing the management tool that notified the contractor of the contractual deficiency (e.g., management, quality, safety, or environmental deficiency report or letter).
Unsatisfactory	F	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.	To justify an Unsatisfactory rating, identify multiple significant events in each category that the contractor had trouble overcoming and state how it impacted the Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g., management, quality, safety, or environmental deficiency reports, or letters).

Figure 1. FY YEAR Contractor Letter Grade Scale

The Contractor shall be evaluated against the defined levels of performance provided for each Objective under the goals. It is NASA's expectation that the Contractor provides for and maintains management and operational (M&O) systems that efficiently and effectively support the current mission(s) of the Laboratory and assure the Laboratory's ability to deliver against NASA's future needs. In evaluating the Contractor's performance NASA shall assess the degree of effectiveness and performance in meeting each of the Objectives provided under each of the Goals. For institutional services, NASA will rely on a combination of the information through the Contractor's own assurance systems, the ability of the Contractor to demonstrate the validity of this information, and NASA's own independent assessment of the Contractor's performance across the spectrum of its responsibilities and in accordance with the enclosed QASP. The latter might include, but is not limited to operational awareness (daily oversight) activities; formal assessments conducted; "For Cause" reviews (if any); and other outside agency reviews (OIG, GAO, DCAA, etc.).

The mission of the Laboratory is to deliver the science and technology needed to support NASA's missions and other sponsor's needs. Operational performance at the Laboratory meets NASA's expectations (defined as the grade of C) for each Objective if the Contractor is performing at a level that fully supports the Laboratory's current and future science and technology mission(s). Performance that has, or has the potential to, 1) adversely impact the delivery of the current and/or future NASA/Laboratory mission(s), 2) adversely impact NASA and or the Laboratory's reputation, or 3) does not provide the competent people, necessary facilities and robust systems necessary to ensure sustainable performance, shall be graded below expectations as defined in Figure 1, above.

NASA sets our expectations high, and expects performance at that level to optimize the efficient and effective operation of the Laboratory. Performance that might merit grades above C would need to reflect a Contractor's significant contributions to the management and operations at the Laboratory, or recognition by external, independent entities as exemplary performance.

Calculating Individual Goal Scores and Letter Grades:

Each Objective is assigned a letter grade by the evaluating office as stated above. The Goal rating is then computed, by subjectively determination of each Objective grade within a Goal. Each mission directorate and function office shall provide an overall rollup grade for the contractor. Enclosure 3 provides the template that shall be utilized by each Mission Directorate and Functional Office to perform their respective evaluation.

Determining the Amount of Performance-Based Fee Earned:

NASA uses the following process to determine the amount of performance-based PDRDF earned by the contractor. The overall grade from each evaluator shall be used to determine an initial overall grade for the contractor, and the rollup grade shall coincide with a dollar value associated with the grade as shown in Table A below. The Contractor shall receive a base amount of \$4M annually. The amount earned above the \$4M shall be based on the below Table.

Table A: Fiscal Year Contractor Evaluation Calculation and PDRDF Earned

Grade & Adjectival Rating	Amount above base PDRDF	
A, Exceptional	\$1M	
B, Very Good	\$500K	
C, Satisfactory	NONE	
D, Marginal	NONE	
F, Unsatisfactory	NONE	
	Base Amount	\$4M
Total Amount of PDRDF Earned		

Adjustment to the Letter Grade and/or Performance-Based Fee Determination:

The lack of performance objectives and notable outcomes in this plan do not diminish the need to comply with minimum contractual requirements. Although the performance-based Goals and their corresponding Objectives shall be the primary means utilized in determining the Contractor's performance grade and/or amount of performance-based PDRDF earned, the Contracting Officer may unilaterally adjust the rating and/or reduce the otherwise earned PDRDF based on the Contractor's performance against all contract requirements as set forth in the Prime Contract. Data to support rating and/or fee adjustments may be derived from other sources to include, but not limited to, operational awareness (daily oversight) activities; "For Cause" reviews (if any); and other outside agency reviews (OIG, GAO, DCAA, etc.), as needed.

The adjustment of a grade and/or addition of otherwise earned PDRDF will be determined by the severity of the performance failure and consideration of mitigating factors. The final Contractor performance-based grades for each Goal and PDRDF earned determination will be contained within a year-end report, documenting the results from the NASA review and shall be reported within CPARS. The report will identify areas where performance improvement is necessary and, if required, provide the basis for any performance-based rating and/or PDRDF adjustments made from the otherwise earned rating/fee based on Performance Goal achievements.

Determining Award Term Eligibility:

NASA will determine the Contractor's adjectival rating for the Award Term Option period based on the Contractor's performance as measured against the evaluation areas, performance goals, objectives and notable outcomes. Contractor is eligible to earn award term options at the end of year's one through four of the basic ordering period. The contractor may earn an award term only if graded an A or B during the ordering period associated with the award term option (See Table B below). No award term is awarded to the contractor for an overall grade of C or below. Any remaining award term in excess of 24 months will be removed in the event an "F" grade is received in year 5 or beyond.

At the end of each Award Term Option evaluation, the Performance Evaluation Board (PEB) will make a recommendation to the Term Determination Official (TDO). The TDO, who represents the Government, will make the final Award Term Option Determination in accordance with the Award Term Option Evaluation Plan. Actual Award Term Option determinations and the methodology for determining the Award Term Option are unilateral decisions made solely at the discretion of the Government.

Evaluation Period	Performance Required for Award Term Option	Available Contract Period
Base Period (BASE)		
October 1, 2018 - September 30, 2023:		
October 1, 2019 - September 30, 2020	Excellent/Very Good (A/B)	Option Period 1 Option Period 2
October 1, 2020 - September 30, 2021	Excellent/Very Good (A/B)	Option Period 3
October 1, 2021 - September 30, 2022	Excellent/Very Good (A/B)	Option Period 4
October 1, 2022 - September 30, 2023	Excellent/Very Good (A/B)	Option Period 5
October 1, 2023 - September 30, 2024	Excellent/Very Good (A/B)	
Option Period 1 (Award term 1)	Satisfactory or above	
October 1, 2023 - September 30, 2024		
Option Period 2 (Award term 2)	Satisfactory or above	
October 1, 2024 - September 30, 2025		
Option Period 3 (Award Term 3)	Satisfactory or above	
October 1, 2025 - September 30, 2026		
Option Period 4 (Award Term 4)	Satisfactory or above	
October 1, 2026 - September 30, 2027		

Option Period 5 (Award Term 5) October 1, 2027 - September 30, 2028	Satisfactory or above
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Table B: Performance Period and Award Term Options Table

II. PERFORMANCE GOALS, OBJECTIVES & NOTABLE OUTCOMES

Background

The current performance-based management oversight approach within NASA has established a new culture within the Administration with emphasis on the partnership between NASA and the laboratory contractor. It has also placed a greater focus on mission performance, best business practices, cost management, and improved contractor accountability. Under the performance-based management system NASA provides clear direction to the laboratory and develops annual performance plans (such as this one) to assess the contractors performance in meeting that direction in accordance with contract requirements. The NASA policy for implementing performance-based management includes the following guiding principles:

- Performance objectives are established in partnership with affected organizations and are directly aligned to NASA’s strategic goals;
- Resource decisions and budget requests are tied to results; and
- Results are used for management information, establishing accountability, and driving long-term improvements.

The performance-based approach focuses the evaluation of the Contractor’s performance against these Performance Goals. Progress against these Goals is measured through the use of a set of Objectives. The success of each Objective will be measured based on demonstrated performance by the laboratory, and on a set of notable outcomes that focus laboratory leadership on the specific items that are the most important initiatives and highest risk issues the laboratory must address during the year. These notable outcomes should be objective, measurable, and results-oriented to allow for a definitive determination of whether or not the specific outcome was achieved at the end of the year.

Performance Goals, Objectives, and Notable Outcomes

The following sections describe the Performance Goals, their supporting Objectives, and associated notable outcomes for FY YEAR.

Enclosure 3. PEMP Goals, Objectives and Notable Outcomes Template

PEMP Goals, Objectives and Notable Outcomes	
Mission Directorate or Office _____	
Goals (1.0), Objectives (1.1) and Notable Outcomes	GRADE
Goal: 1.0 Provide for Quality/Technical product or service and effective mission Accomplishment (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.27)	
Objective: 1.1 Provide product performance at or above the relative performance parameters required by the mission/program/project	
Objective: 1.2 Provide sound system engineering, software engineering, logistics support and mission assurance in accordance with guidance provided by NASA	
Objective: 1.3 Provide high quality program/project quality objectives such as producibility, reliability, maintainability and inspectability.	
Objective: 1.4 Provide quality leadership in research and technology, as well as end-to-end mission development, for advanced concepts that offer breakthroughs in science and exploration that advances the community and NASA goals.	
Notable Outcomes (<i>Fill in</i>)	
Notable Outcomes (<i>Fill in</i>)	
Notable Outcomes (<i>Fill in</i>)	
Goal: 2.0 Provide Schedule/Timeliness (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.28)	

Objective: 2.1 Provide effective completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).	
Objective: 2.2 Provide for significance of scheduled events (e.g., design reviews), discuss causes, and assess the effectiveness of contractor corrective actions.	
Objective: 2.3 Provide project and program plans for mission concept development, and then for mission formulation, implementation and operations mission concept development in accordance with NASA Project Life Cycle guidance.	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Goal: 3.0 Provide for Efficient and Effective Cost Control (CPARS Attachment Instructions for Completing a CPAR, Section A3.29)	
Objective: 3.1 Provide Effective and Efficient forecasting, managing, and controlling contract/order cost.	
Objective: 3.2 Extent to which the contractor demonstrates a sense of cost responsibility, through the efficient use of resources, in each work effort should be assessed.	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Goal: 4.0 Provide Management and/or Business Relations (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.30)	
Objective: 4.1 Leadership and Stewardship of the Laboratory	
Objective: 4.2 Management and Operation of the Laboratory to include the integration and coordination of all activity needed to execute the contract/order,	

specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts.	
Objective: 4.3 Management of Key Personnel: Provide at or above industry standards for selecting, retaining, supporting, and replacing, when necessary, key personnel.	
Objective: 4.4 Provide Efficient and Effective Communications and Responsiveness to Headquarters and the NMO	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Goal: 5.0 Small Business Subcontracting (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.31)	
Objective: 5.1 Compliance with all terms and conditions in the contract/order relating to Small Business participation including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Goal: 6.0 Regulatory Compliance (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.32)	
Objective: 6.1 Provide an Efficient, Effective, and Responsive performance such with financial, environmental (example: Clean Air Act, Clean Water Act), safety, and labor	

regulations as well as any other reporting requirements in the contract terms and conditions.	
Objective: 6.2 No failures to report in accordance with contract terms and conditions, late or nonpayment to subcontractors, trafficking violations, tax delinquency, defective cost or pricing data, terminations, suspension and debarments	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Goal: 7.0 Other Areas (CPARS Attachment 3 Instructions for Completing a CPAR, Section A3.33)	
Objective: 7.1 Provide additional evaluation areas that are unique to the contract/order, or that cannot be captured elsewhere in the evaluation.	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	
Notable Outcomes <i>(Fill in)</i>	

Enclosure 4. Letter and Adjectival Grade Rubric

Letter Grade	Adjectival Grade	Guidance
A	Exceptional	<p>Significantly exceeds expectations of performance against all aspects of the Objective in question. The Contractor's systems function at a level that fully supports the Laboratory's current and future science and technology mission(s). There are significant research areas for which the Laboratory has exceeded the expectations of the proposed research plans in significant ways through creative, new, or unconventional methods that allow greater scientific reach than expected. Science and Technology (S&T) conducted at the Laboratory has resolved one of the most critical questions in the field, or has changed the way the research community thinks about a particular field through paradigm shifting discoveries that would be considered the most influential discovery of the decade for that field. The Contractor provided major advances that significantly accelerate NASA or other customer mission(s). Most of the Laboratory's core competencies are recognized as world leading. The Laboratory identifies, analyzes and champions novel approaches for acquiring the new capability, including leveraging or extending the capability of existing facilities and financing and these efforts result in significant cost estimate and/or risk reductions without loss or, or while enhancing capability. Performance of the facility exceeds expectations as defined before the start of the year in all of these categories: cost of operations, users served, availability, and capability;</p> <ul style="list-style-type: none"> • The schedule and the costs associated with the ramp-up to steady state operations are significantly less than planned and are acknowledged to be 'leadership caliber' by reviews; • Data on environment, safety, and health continues to be exemplary and widely regarded as among the 'best in class'. • The Laboratory took extraordinary means to deliver an extraordinary result for the users and the program in the performance/ review period. A <i>strong</i> outreach program is in place. Performance is notable for its significant contributions to the management and operations across NASA, and/or has been recognized by external, independent entities as exemplary.
B	Very Good	<p>Meets expectations of performance against all aspects of the Objective in question. The Contractor's systems function at a level that fully supports the Laboratory's current and future science and technology mission(s). No performance has, or has the potential to, adversely impact 1) the delivery of the current and/or future NASA/Laboratory mission(s), 2) the NASA and/or the Laboratory's reputation, or does not 3) provide a sustainable performance platform. There are important examples where the Laboratory exceeded the expectations of the proposed research plans. The Laboratory keeps NASA appraised of the status, near-term plans and the resolution of problems on a regular basis; anticipates emerging issues that could impact plans and takes the initiative to inform NASA of possible consequences. The Laboratory has attracted and retained world-leading scientists in most programs. The Laboratory solves problems and addresses issues to avoid adverse impacts to the project. Significant</p>

Letter Grade	Adjectival Grade	Guidance
		<p>areas of S&T conducted at the Laboratory are of exceptional or outstanding merit and quality. S&T conducted at the Laboratory significantly impact NASA or other customer missions. Reviews find/validate that the facility is being used for influential science. Performance of the facility <i>slightly exceeds</i> expectations as defined before the start of the year in all of these categories: cost of operations, users served, availability, capability.</p>
C	Satisfactory	<p>Just misses meeting expectations of performance against a few aspects of the Objective in question. In a few minor instances, the Contractor's systems function at a level that does not fully support the Laboratory's current and future science and technology mission, or provide a sustainable performance platform. The Laboratory has successfully executed proposed research plans. S&T conducted at the Laboratory advance NASA or other customer missions. Data on environment, safety, and health continues to be very good as compared with other projects within NASA. The facility operates at steady state, on cost and on schedule, but the reliability of performance is at the planned values, <u>or</u> the facility operates at steady state, but the associated schedule and costs slightly exceed planned values. The Laboratory has achieved each of the following objectives:</p> <ul style="list-style-type: none"> • Staff throughout the Laboratory organization engage in good communication practices; • Responses to requests for information are prompt and thorough; • The accuracy and integrity of the information provided is never in doubt; • Up-to-date point-of-contact information is widely available for all programmatic areas; • The NMO and Headquarters is always and promptly informed of both positive and negative events at the Laboratory <p>BUT the Laboratory fails to meet the conditions of a grade "B" for at least one of the following reasons:</p> <p>S&T conducted at the Laboratory are not uniformly of high merit and quality OR some areas of research, previously supported, have become unclear OR the Laboratory does not produce sufficiently meritorious proposals to receive program support at a level commensurate with its unique capabilities. Corrective actions plans are developed and executed to ensure the Laboratory is providing services at the minimum contract levels identified.</p>
D	Marginal	<p>Significantly misses meeting expectations of performance against most aspects of the Objective in question. In many notable areas, the Contractor's systems demonstrably hinder the Laboratory's ability to deliver on current and future science and technology mission, and have harmed the reputation of the Laboratory or NASA. Performance failures in this area have affected all parts of the Laboratory; The cost of operations is unexpectedly high and availability of the facility is unexpectedly low; capability is well below expectations. The facility operates somewhat below steady state, on cost and on schedule, and the reliability of performance is somewhat below</p>

Letter Grade	Adjectival Grade	Guidance
		planned values, or the facility operates at steady state, but the associated schedule and costs exceed planned values. Commitment to environment, safety, and health is inadequate. NASA leadership engagement is required to deal with the situation and help the Contractor.
F	0.7-0	All expectations of performance against the Objective in question are missed. The facility fails to operate; the facility operates well below steady state and/or the reliability of the performance is well below planned values. Laboratory commitment to environment, safety, and health issues is inadequate. Performance failures in this area are not recoverable by the Contractor or NASA.

Enclosure 5. Laboratory Fiscal Year Performance Evaluation Report Card Template

This enclosure provides a template for use by the NMO in preparing the annual report cards for publication on the NMO website.

FY *[Year]* Report Card
(Oct 1, *[Year]* – Sept 30, *[Year]*)

Jet Propulsion Laboratory

[Letter Grade]

1.0 Quality/Technical of Product or Service

[Letter Grade]

2.0 Schedule/Timeliness

[Letter Grade]

3.0 Cost Control

[Letter Grade]

4.0 Management or Business Relations

[Letter Grade]

5.0 Small Business Subcontracting

[Letter Grade]

6.0 Regulatory Compliance

[Letter Grade]

7.0 Other

For information regarding this Report Card or the FY *[Year]* JPL Assessment, please contact the *[Name of Procurement Officer, displayed as a link to the Site Office Manager's email address]*.

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Enclosure 6. Quality Assurance Surveillance Plan (QASP)

1. Purpose

This Quality Assurance Surveillance Plan is a government-developed document used to determine if the contractor's performance meets the performance standards contained in the contract. The QASP establishes procedures on how this assessment/inspection process will be conducted. It provides the detailed process for a continuous oversight process:

- What will be monitored
- How monitoring will take place
- Who will conduct the monitoring
- How monitoring efforts and results will be documented

The contractor is responsible for implementing and delivering performance that meets contract standards using its Quality Control Plan. The QASP provides the structure for the government's surveillance of the contractor's performance to assure that it meets contract standards. It is the government's responsibility to be objective, fair and consistent in evaluating contractor performance.

The QASP is not part of the contract nor is it intended to duplicate the contractor's quality control plan. This QASP is a living document. Flexibility in the QASP is required to allow for an increase or decrease in the level of surveillance necessary based on contractor performance.

The government may provide a copy of the QASP to the contractor to facilitate open communication. In addition, the QASP should recognize that unforeseen or uncontrollable circumstances might occur that are outside the control of the contractor.

Bottom line, the QASP should ensure early identification and resolution of performance issues to minimize impact on mission performance.

2. Authority

Authority for issuance of this QASP is provided under Part 46 of the Federal Acquisition Regulation, Inspection of Services clauses, which provides for inspection, acceptance and documentation of the service called for in the contract or order. This acceptance is to be executed by the contracting officer or a duly authorized representative.

3. Roles and Responsibilities

The following personnel shall oversee and coordinate surveillance activities.

NASA Management Office (NMO) – The NMO provides primary program oversight, nominates the COR, ensures the COR is trained before performing any COR duties and supports the COR’s performance assessment activities. While the NMO may serve as a direct conduit to provide Government guidance and feedback to the Contractor on technical matters, they are not empowered to make any contractual commitments or any contract changes on the government’s behalf.

Assigned COR: <enter name>
 Organization or Agency: <enter organization or Agency name>
 Telephone: <enter number>
 Email: <enter address>

Contracting Officer (CO) – The CO shall ensure performance of all necessary actions for effective contracting, ensure compliance with the contract terms, and shall safeguard the interests of the United States in the contractual relationship. The CO shall also ensure that the contractor receives impartial, fair, and equitable treatment under this contract. Determine the final assessment of the contractor’s performance.

Assigned CO: <enter name>
 Organization or Agency: <enter organization or Agency name>
 Telephone: <enter number>
 Email: <enter address>

Contracting Officer’s Representative (COR): The COR is responsible for providing continuous technical oversight of the contractor’s performance. The COR uses the QASP to conduct the oversight/surveillance process. The COR shall keep a Quality Assurance file that accurately documents the contractor’s actual performance. The purpose is to ensure that the contractor meets the performance standards contained in the contract. The COR is responsible for reporting early identification of performance problems to the CO. The COR is required to provide an annual performance assessment to the CO which will be used in documenting past performance. The QASP is the primary tool for documenting contractor performance. The COR is not empowered to make any contractual commitments or to authorize any contractual change on the Government’s behalf.

Other Key Government Personnel (enter name or delete these line if not applicable) This may include performance monitors, inspectors, technical experts, or others who provide information that helps the COR monitor contractor performance.

Contractor Representatives

The following employees of the contractor serve as the contractor’s Program Manager and Task Manager for this contract. (Complete this section after the contract award)

Program Manager - <upon award, enter name>
 Telephone: <enter number>

Email: <enter address>

Task Manager - <upon award, enter name>

Telephone: <enter number>

Email: <enter address>

Other Key Contract Personnel - <upon award, enter name or delete these lines if not applicable>

Title: <enter title>

Telephone: <enter number>

Email: <enter address>

4. Performance Requirements and Method of Surveillance

4.1. Contract Surveillance

The goal of the QASP is to ensure that contractor performance is effectively monitored and documented. The COR's contribution is their professional, non-adversarial relationships with the CO and the contractor, which enables positive, open and timely communications. The foundation of this relationship is built upon objective, fair, and consistent COR evaluations of contractor performance against contract requirements. The COR uses the methods contained in this QASP to ensure the contractor is in compliance with contract requirements. The COR function is responsible for a wide range of surveillance requirements that effectively measure and evaluate the contractor's performance. Additionally, this QASP is based on the premise that the contractor, not the government, is responsible for management and QC/QA actions to successfully meet the terms of the contract.

4.2. Surveillance Matrix

The Surveillance Matrix (Attachment 1) is the list of performance objectives and standards that must be performed by the contractor. This matrix details the method of surveillance the COR will use to validate and inspect these performance elements. Inspection of each element will be documented in the COR file.

Performance objectives define the desired outcomes. Performance Standards define the level of service required under the contract to successfully meet the performance objective. The inspection methodology defines how, when, and what will be assessed in measuring performance. The Government performs surveillance, using this QASP, to determine the quality of the contractor's performance as it relates to the performance element standards. The Performance Requirement Summary (PRS) should be used to form the foundation of the COR's inspection checklist.

5. Performance Reporting

5.1. Performance Assessment Report

5.2. Customer Feedback Form

6.0 Appendix 1 - Surveillance Matrix (Examples provided in Red Below)

PWS Paragraph	Performance Objective / Elements	Standards / AQL	Inspection			Calculation / Ratings
			What	How/ Method	When/ Freq	
			Rollup assessment of Performance Elements, to develop an overall rating for this objective.			
			<< If there is weighting, or other risk issues that influence the overall assessment, document them here. >>			
3.1.1.1	PE 1 for PO 1	90%	From Roadmap: CDRL XYZ Complaints Feedback	X-Ref to description of methodology: M1	e.g.: As Delivered	Grade C

Inspection Metrologies:

M1: Inspection of Reports. All reports shall be reviewed upon receipt. The reviewer will report any flaws in the document and categorize the flaws (Editorial, Format, and/or Substance).

CUSTOMER FEEDBACK RECORD			DATE/TIME OF FEEDBACK
SOURCE OF COMPLAINT			
ORGANIZATION	BUILDING NUMBER	INDIVIDUAL	PHONE NUMBER
NATURE OF FEEDBACK			
CONTRACT REFERENCE			
VALIDATION			
DATE/TIME CONTRACTOR INFORMED OF FEEDBACK			
ACTION TAKEN BY CONTRACTOR			
RECEIVED/VALIDATED BY			