National Aeronautics and
Space Administration
Armstrong Flight Research Center
P.O. Box 273
Edwards, California 93523-0273

April 28, 2015

A/SCT

TO: Prospective Offerors

FROM: A/Contracting Officer

SUBJECT: Request for Quote (RFQ) NND15531905Q, Armstrong Flight Research Center (AFRC) Occupational Health Services (OHS)

The National Aeronautics and Space Administration (NASA), Armstrong Flight Research Center, is pleased to release the RFQ for the OHS acquisition.

Offerors are advised to read all requirements contained herein and in the RFQ.

The following information should be considered in the quote preparation.

ACQUISITION STRUCTURE

OHS has been assigned NAICS code 621111 with a size standard of $11.0M.

The subject RFQ is a Service-Disabled Veteran-Owned Small Business set aside.

The contract type will be Firm-Fixed Price (FFP).

The period of performance consists of a one (1) year base period and four (4) one year options.

QUOTE SUBMISSIONS

Quotes submitted in response to this solicitation shall include the Offeror's name and complete address, including street, city, county, state, and 9-digit zip code. Also, the telephone, fax numbers and e-mail address of the contact person responsible for the quote shall be included in the quote.

Offerors are required to have a cage code that matches the corporate address submitted with its quote. The cage code is to be insert in Block 17a. (Code) on Standard Form (SF) 1449.

Offerors must deliver their quotes in accordance with Section E.5, INSTRUCTIONS TO OFFERORS-COMMERCIAL ITEMS.

Quotes are due at NASA/AFRC no later than 4:00 P.M. (PT) on June 3, 2015.

In accordance with the quote instructions in Section E.5, the quotes are to be submitted in hard copy and CD ROM.

Quotes that arrive after the prescribed time for receipt of quotes will be considered late and treated in accordance with FAR 52.212-1, Instructions to Offerors-Commercial Items.

QUESTIONS RELATED TO THE RFP

All questions and comments regarding the enclosed RFQ shall be submitted in writing via the e-mail address listed below, under the section entitled E-MAIL CORRESPONDENCE.

Please title the e-mail note "Questions/Comments-OHS RFQ" in the subject block and make sure to include a name and daytime phone number of the person submitting questions or comments in the body of the e-mail.

Offerors shall submit all questions and comments no later than 4:00 PM PT on May 22, 2015.

Answers to questions will be posted to the NASA Acquisition Internet Service (NAIS) through an amendment to this solicitation.

E-MAIL CORRESPONDENCE

All e-mail correspondence related to this solicitation shall be submitted to the following e-mail addresses:

Shari.C.Trigg@nasa.gov
Maikeyza.Brown-1@nasa.gov

AMENDMENTS TO THE RFQ

It is the Offeror's responsibility to monitor NAIS at http://prod.nais.nasa.gov/cgi-bin/eps/synopsis.cgi?acqid=149593 for answers to questions and amendments to the RFP.

Offerors are encouraged to ensure that they have submitted the required documentation and their company is listed on the on-line database for the following:

System for Award Management (SAM): https://www.sam.gov/index.html/#1

VETS 100: http://www.dol.gov/vets/programs/fcp/main.htm

Please note a pre-quotation conference is scheduled for 9:00 AM, Tuesday, May 19, 2015. Further information is listed in Section E.5 of the RFQ.

The information provided in this cover letter should not be construed to alter the RFQ in any way. Should a conflict exist between this cover letter and the RFQ, the RFQ shall take precedence.

This solicitation neither commits the Government to pay any cost incurred in the submission of the offer or in making necessary studies or designs for preparing the offer, nor to contract for services or supplies. Any cost incurred in anticipation of a contract shall be at the Offeror's own risk.

Maikeyza Brown
Contracting Officer

Enclosure:
1) RFQ NND15531905Q

SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS
OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, & 30

1. REQUISITION NUMBER

PAGE 1 OF 359

2. CONTRACT NO.

3. AWARD/ EFFECTIVE DATE

4. ORDER NUMBER

5. SOLICITATION NUMBER: NND15531905Q

6. SOLICITATION ISSUE DATE: 05/01/2015

7. FOR SOLICITATION INFORMATION CALL:
a. NAME: Shari Trigg
b. TELEPHONE NUMBER (No collect calls): 661-276-2428

8. OFFER DUE DATE/LOCAL TIME: 06/03/2015 1600 PT

9. ISSUED BY CODE DFRC

NASA/Armstrong Flight Research Ctr.
P.O. Box 273 M/S 4811-140
Edwards CA 93523-0273

10. THIS ACQUISITION IS
☐ UNRESTRICTED OR ☒ SET ASIDE: 100.00 % FOR:
☐ SMALL BUSINESS
☐ HUBZONE SMALL BUSINESS
☒ SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS
☐ WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM
☐ EDWOSB
☐ 8(A)

NAICS: 621111

SIZE STANDARD: $11.0

11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED
☐ SEE SCHEDULE

12. DISCOUNT TERMS: NT 30

☒ 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)

13b. RATING: DO C9

14. METHOD OF SOLICITATION
☒ RFQ ☐ IFB ☐ RFP

15. DELIVER TO CODE DFRC

NASA/Armstrong Flight Research Ctr.
P.O. Box 273, M/S 4811-140
Edwards CA 93523-0273

16. ADMINISTERED BY CODE DFRC

NASA/Armstrong Flight Research Ctr.
P.O. Box 273 M/S 4811-140
Edwards CA 93523-0273

17a. CONTRACTOR/ OFFEROR CODE

FACILITY CODE

TELEPHONE NO.

☐ 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER

18a. PAYMENT WILL BE MADE BY CODE NSSC

NASA Shared Services Center
Financial Management Division (FMD)
Accounts Payable
Building 1111, C. Road
Stennis Space Center, MS 39529

Email: NSSC-AccountsPayable@nasa.gov

18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED ☐ SEE ADDENDUM

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	The specific services covered in the Occupational Health Services (OHS) are Occupational Medicine (to include Occupational Health Nursing and Fitness Center Management), as well as Industrial Hygiene and Health Physics (i.e. Radiation Safety).				
000	Phase-In Phase-In will be covered by issuance of a separate purchase order, however quoters are to Continued ...	30	DY		

(Use Reverse and/or Attach Additional Sheets as Necessary)

25. ACCOUNTING AND APPROPRIATION DATA

26. TOTAL AWARD AMOUNT *(For Govt. Use Only)*

☒ 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4. FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA ☒ ARE ☐ ARE NOT ATTACHED.
☐ 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA ☐ ARE ☐ ARE NOT ATTACHED.

☒ 28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN 1 COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED.

☐ 29. AWARD OF CONTRACT: _____ OFFER DATED _____. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS:

30a. SIGNATURE OF OFFEROR/CONTRACTOR

31a. UNITED STATES OF AMERICA *(SIGNATURE OF CONTRACTING OFFICER)*

30b. NAME AND TITLE OF SIGNER *(Type or print)*

30c. DATE SIGNED

31b. NAME OF CONTRACTING OFFICER *(Type or print)*: Maikeyza Brown

31c. DATE SIGNED

19. ITEM NO.	20. SCHEDULE OF SUPPLIES/SERVICES	21. QUANTITY	22. UNIT	23. UNIT PRICE	24. AMOUNT
	provide the quoted price for Phase-In. Period of Performance 08/01/2015 to 08/31/2015.				
001	Perform operations and sustaining Occupational Health Services in accordance with the Performance Work Statement dated April 28, 2015. Period of performance 09/01/2015 through 08/31/2016.	1	YR		
002	Option Period 1 pursuant to FAR 52.217-9. Perform operations and sustaining Occupational Health Services in accordance with the Performance Work Statement dated April 28, 2015. Period of Performance 09/01/2016 through 08/31/2017.	1	YR		
003	Option Period 2 pursuant to FAR 52.217-9. Perform operations and sustaining Occupational Health Services in accordance with the Performance Work Statement dated April 28, 2015. Period of Performance 09/01/2017 through 08/31/2018.	1	YR		
004	Option Period 3 pursuant to FAR 52.217-9. Perform operations and sustaining Occupational Health Services in accordance with the Performance Work Statement dated April 28, 2015. Period of Performance 09/01/2018 through 08/31/2019.	1	YR		
005	Option Period 4 pursuant to FAR 52.217-9. Perform operations and sustaining Occupational Health Services in accordance with the Continued ...	1	YR		

32a. QUANTITY IN COLUMN 21 HAS BEEN

☐ RECEIVED ☐ INSPECTED ☐ ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED: _____

32b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE	32c. DATE	32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE

32e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE	32f. TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE
	32g. E-MAIL OF AUTHORIZED GOVERNMENT REPRESENTATIVE

33. SHIP NUMBER	34. VOUCHER NUMBER	35. AMOUNT VERIFIED CORRECT FOR	36. PAYMENT	37. CHECK NUMBER
☐ PARTIAL ☐ FINAL			☐ COMPLETE ☐ PARTIAL ☐ FINAL	

38. S/R ACCOUNT NUMBER	39. S/R VOUCHER NUMBER	40. PAID BY

41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT		42a. RECEIVED BY *(Print)*	
41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER	41c. DATE	42b. RECEIVED AT *(Location)*	
		42c. DATE REC'D *(YY/MM/DD)*	42d. TOTAL CONTAINERS

NAME OF OFFEROR OR CONTRACTOR

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	Performance Work Statement dated April 28, 2015. Period of Performance 09/01/2019 through 08/31/2020.				

SECTION B: CONTINUATION OF SF1449

B.1: SUPPLIES AND/OR SERVICES TO BE PROVIDED

The contractor shall perform Occupational Health Services functions to support the NASA AFRC activities in accordance with the attached Performance Work Statement (PWS), dated April 28, 2015.

Note: The terms "offer" and "offeror" are synonymous with "quote" and "quoter".

(End)

SECTION C: CONTRACT CLAUSES AND PROVISIONS

C.1 ADDENDUM TO 52.212-4, CONTRACT TERMS AND CONDITIONS - COMMERCIAL ITEMS

(1) 52.203-6 Restrictions on Subcontractor Sales to the Government (SEP 2006)

(2) 52.203-6 Alternate I (OCT 1995)

(3) 52.203-17 Contractor Employee Whistleblower Rights and Requirement to Inform Employees of Whistleblower Rights (APR 2014)

(4) 52.204-2 Security Requirements (AUG 1996)

(5) 52.204-4 Printed or Copied Double-Sided on Postconsumer Fiber Content Paper (MAY 2011)

(6) 52.204-9 Personal Identity Verification of Contractor Personnel (JAN 2011)

(7) 52.204-14 Service Contract Reporting Requirements (JAN 2014)

(8) 52.204-18 Commercial and Government Entity Code Maintenance (NOV 2014)

(9) 52.219-8 Utilization of Small Business Concerns (OCT 2014)

(10) 52.222-17 Nondisplacement of Qualified Workers (MAY 2014)

(11) 52.222-35 Equal Opportunity for Veterans (JUL 2014)

(12) 52.222-37 Employment Reports on Veterans (JUL 2014)

(13) 52.222-40 Notification of Employee Rights Under the National Labor Relations Act (DEC 2010)

(14) 52.222-43 Fair Labor Standards Act and Service Contract Labor Standards -- Price Adjustment (Multiple Year and Option Contracts) (MAY 2014)

(15) 52.222-55 Minimum Wages Under Executive Order 13658 (DEC 2014)

(16) 52.223-1 Biobased Product Certification (MAY 2012)

(17) 52.223-2 Affirmative Procurement of Biobased Products Under Service And Construction Contracts (SEP 2013)

(18) 52.223-5 Pollution Prevention and Right-to-Know Information (MAY 2011)

(19) 52.223-10 Waste Reduction Program (MAY 2011)

(20) 52.223-17 Affirmative Procurement of EPA-Designated Items in Service and Construction Contracts (MAY 2008)

(21) 52.224-1 Privacy Act Notification (APR 1984)

(22) 52.224-2 Privacy Act (APR 1984)

(23) 52.228-5 Insurance -- Work on a Government Installation (JAN 1997)

(24) 52.232-18 Availability of Funds (APR 1984)

(25) 52.232-33 Payment by Electronic Funds Transfer-- System for Award Management (JUL 2013)

(26) 52.232-40 Providing Accelerated Payments to Small Business Subcontractors (DEC 2013)

(27) 52.237-3 Continuity of Services (JAN 1991)

(28) 52.242-13 Bankruptcy (JUL 1995)

(29) 52.245-1 Government Property (APR 2012)

(30) 52.245-1 Alternate 1 (APR 2012)

(31) 52.245-9 Use and Charges (APR 2012)

(32) 1852.203-71 Requirement to Inform Employees of Whistleblower Rights (AUG 2014)

(33) 1852.204-76 Security Requirements for Unclassified Information Technology Resources (JAN 2011)

(34) 1852.215-84 Ombudsman (NOV 2011)

(35) 1852.219-76 NASA 8 Percent Goal (JUL 1997)

(36) 1852.223-70 Safety and Health (APR 2002)

(37) 1852.223-75 Major Breach of Safety or Security (FEB 2002)

(38) 1852.225-70 Export Licenses (FEB 2000)

(39) 1852.228-75 Minimum Insurance Coverage (OCT 1988)

(40) 1852.237-70 Emergency Evacuation Procedures (DEC 1988)

(41) 1852.237-72 Access to Sensitive Information (JUN 2005)

(42) 1852.237-73 Release of Sensitive Information (JUN 2005)

(43) 1852.242-70 Technical Direction (SEP 1993)

(44) 1852.242-72 Observance of Legal Holidays (AUG 1992)

(45) 1852.245-75 Property Management Changes (JAN 2011)

(46) 1852.245-82 Occupancy Management Requirements (JAN 2011)

(47) 52.217-8 Option to Extend Services (NOV 1999)

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

(End of Clause)

(48) 52.217-9 Option to Extend the Term of the Contract (MAR 2000)

(a) The Government may extend the term of this contract by written notice to the Contractor within 30 days*;* provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 60 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 5 years.

(End of Clause)

52.236-13 Accident Prevention (NOV 1991), Alt 1 (NOV 1991)

(a) The Contractor shall provide and maintain work environments and procedures which will --

(1) Safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities;

(2) Avoid interruptions of Government operations and delays in project completion dates; and

(3) Control costs in the performance of this contract.

(b) For these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall --

(1) Provide appropriate safety barricades, signs, and signal lights;

(2) Comply with the standards issued by the Secretary of Labor at 29 CFR Part 1926 and 29 CFR Part 1910; and

(3) Ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

(c) If this contract is for construction or dismantling, demolition or removal of improvements with any Department of Defense agency or component, the Contractor shall comply with all pertinent provisions of the latest version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation.

(d) Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any stop work order issued under this clause.

(e) The Contractor shall insert this clause, including this paragraph (e), with appropriate changes in the designation of the parties, in subcontracts.

Alternate I (Nov 1991). If the contract will involve (a) work of a long duration or hazardous nature, or (b) performance on a Government facility that on the advice of technical representatives involves hazardous materials or operations that might endanger the safety of the public and/or Government personnel or property, add the following paragraph (f) to the basic clause:

(f) Before commencing the work, the Contractor shall --

(1) Submit a written proposed plan for implementing this clause. The plan shall include an analysis of the significant hazards to life, limb, and property inherent in contract work performance and a plan for controlling these hazards. The proposed plan is due 30 days after Contract Award;
(2) Approval of Plan by COR is due within 7 days after Plan submittal; and
(3) Contractor may commence work prior to plan approval, only after AFRC Form 80034 is submitted.

(End of Clause)

C.2 1852.232-77 LIMITATION OF FUNDS (FIXED-PRICE CONTRACT) (MAR 1989)

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

SCHEDULE FOR ALLOTMENT OF FUNDS	
Date: **TBD**	Amounts: **TBD**

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

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

(2) If funds allotted are considered by the Contractor to be inadequate to cover the work to be performed until that date, or an agreed date substituted for it, the Contractor shall notify the Contracting Officer in writing when within the next 60 days the work will reach a point at which, if the contract is terminated pursuant to the Termination for Convenience of the Government clause of this contract, the total amount payable by the Government (including amounts payable for subcontracts and settlement costs) pursuant to paragraphs (f) and (g) of that clause will approximate 75 percent of the total amount then allotted to the contract.

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

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

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

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

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

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

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

(End of Clause)

C.3 1852.235-71 KEY PERSONNEL AND FACILITIES (MAR 1989)

(a) The personnel and/or facilities listed below (or specified in the contract Schedule) are considered essential to the work being performed under this contract. Before removing, replacing, or diverting any of the listed or specified personnel or facilities, the Contractor shall (1) notify the Contracting Officer reasonably in advance and (2) submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this contract.

(b) The Contractor shall make no diversion without the Contracting Officer's written consent; provided, that the Contracting Officer may ratify in writing the proposed change, and that ratification shall constitute the Contracting Officer's consent required by this clause.

(c) The list of personnel and/or facilities (shown below or as specified in the contract Schedule) may, with the consent of the contracting parties, be amended from time to time during the course of the contract to add or delete personnel and/or facilities. QUOTER WILL IDENTIFY ALL KEY PERSONNEL.

Position/Functional Area	*Personnel*
(OFI)	(OFI)
(OFI)	(OFI)
(OFI)	(OFI)

Offeror Fill-In (OFI)

(End of clause)

C.4 1852.245-71 INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY (JAN 2011)

(a) The Government property described in paragraph (c) of this clause may be made available to the Contractor on a no-charge basis for use in performance of this contract. This property shall be utilized only within the physical confines of the NASA installation that provided the property unless authorized by the Contracting Officer under (b)(1)(iv). Under this clause, the Government retains accountability for, and title to, the property, and the Contractor shall comply with the following:

NASA Procedural Requirements (NPR) 4100.1, NASA Materials Inventory Management Manual;

NASA Procedural Requirements (NPR) 4200.1, NASA Equipment Management Procedural Requirements;

NASA Procedural Requirement (NPR) 4300.1, NASA Personal Property Disposal Procedural Requirements;

Property not recorded in NASA property systems must be managed in accordance with the requirements of the clause at FAR 52.245–1, as incorporated in this contract.
The Contractor shall establish and adhere to a system of written procedures to assure continued, effective management control and compliance with these user responsibilities. In accordance with FAR 52.245-1(h)(1) the contractor shall be liable for property lost, damaged, destroyed or stolen by the contractor or their employees when determined responsible by a NASA Property Survey Board, in accordance with the NASA guidance in this clause.

(b)(1) The official accountable recordkeeping, financial control, and reporting of the property subject to this clause shall be retained by the Government and accomplished within NASA management information systems prescribed by the installation Supply and Equipment Management Officer (SEMO) and Financial Management Officer. If this contract provides for the Contractor to acquire property, title to which will vest in the Government, the following additional procedures apply:

(i) The Contractor's purchase order shall require the vendor to deliver the property to the installation central receiving area.

(ii) The Contractor shall furnish a copy of each purchase order, prior to delivery by the vendor, to the installation central receiving area.

(iii) The Contractor shall establish a record for Government titled property as required by FAR 52.245-1, as incorporated in this contract, and shall maintain that record until accountability is accepted by the Government.

(iv) Contractor use of Government property at an off-site location and off-site subcontractor use requires advance approval of the Contracting Officer and notification of the Industrial Property Officer. The property shall be considered Government furnished and the Contractor shall assume accountability and financial reporting responsibility. The Contractor shall establish records and property control procedures and maintain the property in accordance with the requirements of FAR 52.245–1, Government Property (as incorporated in this contract), until its return to the installation. NASA Procedural Requirements related to property loans shall not apply to offsite use of property by contractors.

(2) After transfer of accountability to the Government, the Contractor shall continue to maintain such internal records as are necessary to execute the user responsibilities identified in paragraph (a) of this clause and document the acquisition, billing, and disposition of the property. These records and supporting documentation shall be made available, upon request, to the SEMO and any other authorized representatives of the Contracting Officer.

(c) The following property and services are provided if checked:

X (1) Office space, work area space, and utilities. Government telephones are available for official purposes only.

X (2) Office furniture.

X (3) Property listed in Attachment 04

(i) If the Contractor acquires property, title to which vests in the Government pursuant to other provisions of this contract, this property also shall become accountable to the Government upon its entry into Government records.

(ii) The Contractor shall not bring to the installation for use under this contract any property owned or leased by the Contractor, or other property that the Contractor is accountable for under any other Government contract, without the Contracting Officer's prior written approval.

X (4) Supplies from stores stock.

X (5) Publications and blank forms stocked by the installation.

X (6) Safety and fire protection for Contractor personnel and facilities.

X (7) Installation service facilities: Armstrong Flight Research Center, Building 703 and AERO Institute

X (8) Medical treatment of a first-aid nature for Contractor personnel injuries or illnesses sustained during on-site duty.

X (9) Cafeteria privileges for Contractor employees during normal operating hours.

X (10) Building maintenance for facilities occupied by Contractor personnel.

X (11) Moving and hauling for office moves, movement of large equipment, and delivery of supplies. Moving services may be provided on-site, as approved by the Contracting Officer.

(End of clause)

C.5 1852.245-74 IDENTIFICATION AND MARKING OF GOVERNMENT EQUIPMENT (JAN 2011)

(a) The Contractor shall identify all equipment to be delivered to the Government using NASA Technical Handbook (NASA–HDBK) 6003, Application of Data Matrix Identification Symbols to Aerospace Parts Using Direct Part Marking Methods/Techniques, and NASA Standard (NASA–STD) 6002, Applying Data Matrix Identification Symbols on Aerospace Parts or through the use of commercial marking techniques that: (1) are sufficiently durable to remain intact through the typical lifespan of the property: and, (2) contain the data and data format required by the standards. This requirement includes deliverable equipment listed in the schedule and other equipment when no longer required for contract performance and NASA directs physical transfer to NASA or a third party. The Contractor shall identify property in both machine and human readable form unless the use of a machine readable-only format is approved by the NASA Industrial Property Officer.

(b) Equipment shall be marked in a location that will be human readable, without disassembly or movement of the equipment, when the items are placed in service unless such placement would have a deleterious effect on safety or on the item's operation.

(c) Concurrent with equipment delivery or transfer, the Contractor shall provide the following data in an electronic spreadsheet format:

(1) Item Description.
(2) Unique Identification Number (License Tag).
(3) Unit Price.
(4) An explanation of the data used to make the unique identification number.

(d) For equipment no longer needed for contract performance and physically transferred under paragraph (a) of this clause, the following additional data is required:

(1) Date originally placed in service.
(2) Item condition.

(e) The data required in paragraphs (c) and (d) of this clause shall be delivered to the NASA center receiving activity listed below:

NASA AFRC
B4876 Lilly Drive
Edwards, CA 93524

(f) The contractor shall include the substance of this clause, including this paragraph (f), in all subcontracts that require delivery of equipment.

(End of clause)

(End of Addendum)

C.6 ADDENDUM TO 52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS - COMMERCIAL ITEMS (MAR 2015)

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

(1) 52.209-10, Prohibition on Contracting with Inverted Domestic Corporations (DEC 2014)

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

(3) 52.233-4, Applicable Law for Breach of Contract Claim (OCT 2004) (Public Laws 108-77 and 108-78 (19 U.S.C. 3805 note)).

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

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

[**X**] (2) 52.203-13, Contractor Code of Business Ethics and Conduct (APR 2010) (41 U.S.C. 3509).

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

[X] (4) 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards (JUL 2013) (Pub. L. 109-282) (31 U.S.C. 6101 note).

(5) (Reserved)

[**X**] (6) 52.204-14, Service Contract Reporting Requirements (JAN 2014) (Pub. L. 111-117, section 743 of Div. C).

[] (7) 52.204-15, Service Contract Reporting Requirements for Indefinite-Delivery Contracts (JAN 2014) (Pub. L. 111-117, section 743 of Div. C).

[X] (8) 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment. (AUG 2013) (31 U.S.C. 6101 note).

[**X**] (9) 52.209-9, Updates of Publicly Available Information Regarding Responsibility Matters (JUL 2013) (41 U.S.C. 2313).

[] (10) (Reserved)

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

[] (ii) Alternate I (NOV 2011) of 52.219-3.

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

[] (ii) Alternate I (JAN 2011) of 52.219-4.

[] (13) (Reserved)

[X] (14)(i) 52.219-6, Notice of Total Small Business Set-Aside (NOV 2011) (15 U.S.C. 644).

[] (ii) Alternate I (NOV 2011).

[] (iii) Alternate II (NOV 2011).

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

[] (ii) Alternate I (OCT 1995) of 52.219-7.

[] (iii) Alternate II (MAR 2004) of 52.219-7.

[] (16) 52.219-8, Utilization of Small Business Concerns (OCT 2014) (15 U.S.C. 637(d)(2) and (3))
[] (17)(i) 52.219-9, Small Business Subcontracting Plan (OCT 2014) (15 U.S.C. 637(d)(4)).

[] (ii) Alternate I (OCT 2001) of 52.219-9.

[] (iii) Alternate II (OCT 2001) of 52.219-9.

[] (iv) Alternate III (OCT 2014) of 52.219-9.

[] (18) 52.219-13, Notice of Set-Aside of Orders (NOV 2011) (15 U.S.C. 644(r)).

[**X**] (19) 52.219-14, Limitations on Subcontracting (NOV 2011) (15 U.S.C. 637(a)(14)).

[] (20) 52.219-16, Liquidated Damages-Subcontracting Plan (JAN 1999) (15 U.S.C. 637(d)(4)(F)(i)).

[X] (21) 52.219-27, Notice of Service-Disabled Veteran-Owned Small Business Set-Aside (NOV 2011) (15 U.S.C. 657f).

[X] (22) 52.219-28, Post Award Small Business Program Re-representation (JUL 2013) (15 U.S.C. 632(a)(2)).

[] (23) 52.219-29, Notice of Set-Aside for Economically Disadvantaged Women-Owned Small Business (EDWOSB) Concerns (JUL 2013) (15 U.S.C. 637(m)).

[] (24) 52.219-30, Notice of Set-Aside for Women-Owned Small Business (WOSB) Concerns Eligible Under the WOSB Program (JUL 2013) (15 U.S.C. 637(m)).

[X] (25) 52.222-3, Convict Labor (JUN 2003) (E.O. 11755).

[] (26) 52.222-19, Child Labor-Cooperation with Authorities and Remedies (JAN 2014) (E.O. 13126).

[X] (27) 52.222-21, Prohibition of Segregated Facilities (FEB 1999).

[X] (28) 52.222-26, Equal Opportunity (MAR 2007) (E.O. 11246).

[X] (29) 52.222-35, Equal Opportunity for Veterans (JUL 2014) (38 U.S.C. 4212).

[X] (30) 52.222-36, Equal Opportunity for Workers with Disabilities (JUL 2014) (29 U.S.C. 793).

[**X**] (31) 52.222-37, Employment Reports on Veterans (JUL 2014) (38 U.S.C. 4212).

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

[X] (33)(i) 52.222-50, Combating Trafficking in Persons (MAR 2015) (22 U.S.C. chapter 78 and E.O. 13627).

> [] (ii) *Alternate I* (MAR 2015) of 52.222-50 (22 U.S.C. chapter 78 and E.O. 13627).

[**X**] (34) 52.222-54, Employment Eligibility Verification (AUG 2013). (Executive Order 12989). (Not applicable to the acquisition of commercially available off-the-shelf items or certain other types of commercial items as prescribed in 22.1803.)

[**X**] (35)(i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Items (MAY 2008) (42 U.S.C. 6962(c)(3)(A)(ii)). (Not applicable to the acquisition of commercially available off-the-shelf items.)

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

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

> (ii) Alternate I (JUN 2014) of 52.223-13.

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

> (ii) Alternate I (JUN 2014) of 52.223-14.

[] (38) 52.223-15, Energy Efficiency in Energy-Consuming Products (DEC 2007) (42 U.S.C. 8259b).

[] (39)(i) 52.223-16, Acquisition of EPEAT®-Registered Personal Computer Products (JUN 2014) (E.O.s 13423 and 13514).

[](ii) Alternate I (JUN 2014) of 52.223-16.

[X] (40) 52.223-18, Encouraging Contractor Policies to Ban Text Messaging While Driving (AUG 2011)

[] (41) 52.225-1, Buy American-Supplies (MAY 2014) (41 U.S.C. chapter 83).

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

[] (ii) Alternate I (MAY 2014) of 52.225-3.

[] (iii) Alternate II (MAY 2014) of 52.225-3.

[] (iv) Alternate III (MAY 2014) of 52.225-3.

[] (43) 52.225-5, Trade Agreements (NOV 2013) (19 U.S.C. 2501, *et seq*., 19 U.S.C. 3301 note).

[] (44) 52.225-13, Restrictions on Certain Foreign Purchases (JUN 2008) (E.O.'s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).

[] (45) 52.225-26, Contractors Performing Private Security Functions Outside the United States (JUL 2013) (Section 862, as amended, of the National Defense Authorization Act for Fiscal Year 2008; 10 U.S.C. 2302 Note).

[] (46) 52.226-4, Notice of Disaster or Emergency Area Set-Aside (NOV 2007) (42 U.S.C. 5150).

[] (47) 52.226-5, Restrictions on Subcontracting Outside Disaster or Emergency Area (NOV 2007) (42 U.S.C. 5150).

[] (48) 52.232-29, Terms for Financing of Purchases of Commercial Items (FEB 2002) (41 U.S.C. 4505, 10 U.S.C. 2307(f)).
[] (49) 52.232-30, Installment Payments for Commercial Items (OCT 1995) (41 U.S.C. 4505, 10 U.S.C. 2307(f)).

[**X**] (50) 52.232-33, Payment by Electronic Funds Transfer-System for Award Management (JUL 2013) (31 U.S.C. 3332).

[] (51) 52.232-34, Payment by Electronic Funds Transfer - Other than System for Award Management (JUL 2013) (31 U.S.C. 3332).

[] (52) 52.232-36, Payment by Third Party (MAY 2014) (31 U.S.C. 3332).

[**X**] (53) 52.239-1, Privacy or Security Safeguards (AUG 1996) (5 U.S.C. 552a).

[] (54)(i) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (FEB 2006) (46 U.S.C. Appx. 1241(b) and 10 U.S.C. 2631).

[] (ii) Alternate I (APR 2003) of 52.247-64.

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

[**X**] (1) 52.222-41, Service Contract Labor Standards (MAY 2014) (41 U.S.C. chapter 67).

[**X**] (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (MAY 2014) (29 U.S.C. 206 and 41 U.S.C. chapter 67).

This Statement is for Information Only: It is not a Wage Determination	
Employee Class	Annual Monetary Wage – Fringe Benefits Range
Industrial Hygienist	$92,973 - $120,863
Industrial Hygiene Technician	$44,076 - $70,086
Physician	$129,233 - $158,700
Nurse Practitioner	$59,372 – $120,863
Registered Nurse	$53,915 - $84,800
Technical Documents Specialist	$39,664 - $57,294

1. Holidays - Receives 10 paid holidays per year, i.e. New Year's Day, Martin Luther King's Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day, and Christmas Day.

2. Annual Leave - Receives 13 days paid leave for service up to 3 years: 20 days for 3 to 15 years of service; and 26 days for 15 years of service or over.

3. Sick Leave - Receives 13 days paid leave per year.

4. Health Insurance - Government pay up approximately 70% of health insurance.

5. Group Life Insurance - Government pay one-third of life insurance rate premiums.

6. Retirement – The Government provides three retirement plans identified as the Civil Service Retirement System (CSRS), the Federal Employees Retirement System (FERS), and the CSRS Offset. Under the CSRS, the Government matches up to 8.45% of the employee's base pay toward the retirement benefit, which includes 7% toward CSRS and 1.45% toward Medicare. FERS is a retirement plan that provides benefits from three different sources: a Basic Benefit Plan, Social Security and the Thrift Savings Plan (TSP). Under the FERS, the Government contributes 1% (plus matching contributions of up to 4% of basic pay), depending on employee's contributions toward TSP, 6.2% toward Old Age, Survivors, and Disability Insurance (OASDI), and 1.45% toward Medicare. Under the CSRS Offset, the Government matches up to 7% of the employee's base pay toward the retirement benefit, which includes .8% of the employee's base pay plus the OASDI tax rate (6.2%), and 1.45% toward Medicare.

7. Part-time Employees - Part-time Federal employees receive pro rata annual leave, sick leave, holidays, health insurance, and group life insurance benefits based on the number of hours worked.

[] (3) 52.222-43, Fair Labor Standards Act and Service Contract Labor Standards-Price Adjustment (Multiple Year and Option Contracts) (MAY 2014) (29 U.S.C. 206 and 41 U.S.C. chapter 67).

[] (4) 52.222-44, Fair Labor Standards Act and Service Contract Labor Standards-Price Adjustment (MAY 2014) (29 U.S.C 206 and 41 U.S.C. chapter 67).

[] (5) 52.222-51, Exemption from Application of the Service Contract Labor Standards to Contracts for Maintenance, Calibration, or Repair of Certain Equipment-Requirements (MAY 2014) (41 U.S.C. chapter 67).

[] (6) 52.222-53, Exemption from Application of the Service Contract Labor Standards to Contracts for Certain Services-Requirements (MAY 2014) (41 U.S.C. chapter 67).

[] (7) 52.222-17, Nondisplacement of Qualified Workers (MAY 2014) (E.O. 13495).

[] (8) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (MAY 2014) (42 U.S.C. 1792).

[] (9) 52.237-11, Accepting and Dispensing of $1 Coin (SEP 2008) (31 U.S.C. 5112(p)(1)).

[] (10) 52.222-55, Minimum Wages Under Executive Order 13658 (DEC 2014) (Executive Order 13658).

(d) *Comptroller General Examination of Record*. The Contractor shall comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does not contain the clause at 52.215-2, Audit and Records - Negotiation.

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

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

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

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

(i) 52.203-13, Contractor Code of Business Ethics and Conduct (APR 2010) (41 U.S.C. 3509).

(ii) 52.219-8, Utilization of Small Business Concerns (OCT 2014) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $650,000 ($1.5 million for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(iii) 52.222-17, Nondisplacement of Qualified Workers (MAY 2014) (E.O. 13495). Flow down required in accordance with paragraph (l) of FAR clause 52.222-17.

(iv) 52.222-26, Equal Opportunity (MAR 2007) (E.O. 11246).

(v) 52.222-35, Equal Opportunity for Veterans (JUL 2014) (38 U.S.C. 4212).

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

(vii) 52.222-37, Employment Reports on Veterans (JUL 2014) (38 U.S.C. 4212).

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

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

(x) __ (A) 52.222-50, Combating Trafficking in Persons (MAR 2015) (22 U.S.C. chapter 78 and E.O. 13627).

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

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

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

(xiii) 52.222-54, Employment Eligibility Verification (AUG 2013).

(xiv) 52.225-26, Contractors Performing Private Security Functions Outside the United States (JUL 2013) (Section 862, as amended, of the National Defense Authorization Act for Fiscal Year 2008; 10 U.S.C. 2302 Note).
(xv) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (MAY 2014) (42 U.S.C. 1792). Flow down required in accordance with paragraph (e) of FAR clause 52.226-6.

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

(xvii) 52.222-55, Minimum Wages Under Executive Order 13658 (DEC 2014) (Executive Order 13658).

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

(End of clause)

C.7 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

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

be accessed electronically at this/these addresses:

Federal Acquisition Regulation (FAR) clauses: http://farsite.hill.af.mil/vffara.htm

NASA FAR Supplement (NFS) clauses: http://farsite.hill.af.mil/vfnasaa.htm

(End of Clause)

SECTION D: CONTRACT DOCUMENTS, EXHIBITS OR ATTACHMENTS

D.1 LIST OF ATTACHMENTS

Item Number	Title	Date	Number of Pages
1	Performance Work Statement	4/28/2015	20
2	Department of Labor Wage Determination Number 2005-2043, Rev. No. 18 (Kern County)	12/22/2014	10
3	Department of Labor Wage Determination Number 2005-2047, Rev. No. 16 (Los Angeles County)	12/22/2014	10
4	Government Furnished Property Listing	3/30/2015	2
5	Definitions and Acronyms Listing	3/30/32015	5
6	Credential Requirements	3/30/2015	2
7	Safety, Health and Environmental Management Plan (SHEMP)	**30 days after Contract Award**	**TBD**
8	Data Requirements List (DRL)	3/30/2015	5
9	Data Requirements Descriptions (DRDs)	3/30/2015	38
10	NPR 1800.1C	10/06/2009	169
11	NPR 1850.1	05/11/2010	24

The following attachments are for information or quote preparation only and will be deleted at time of contract award:

Item Number	Title	Date	Number of Pages
12	Historical Data	3/30/2015	1
13	Past Performance Questionnaire	3/30/2015	7
14	Quality Assurance Surveillance Plan (QASP)	3/30/2015	12

SECTION E: SOLICITATION PROVISIONS

E.1 52.204-16 COMMERCIAL AND GOVERNMENT ENTITY CODE REPORTING (NOV 2014)

E.2 52.209-2 PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS-REPRESENTATION (DEC 2014)

E.3 52.217-5 EVALUATION OF OPTIONS (JUL 1990)

E.4 52.209-7 INFORMATION REGARDING RESPONSIBILITY MATTERS (JUL 2013)

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

"Administrative proceeding" means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (*e.g.*, Securities and Exchange Commission Administrative Proceedings, Civilian

Board of Contract Appeals Proceedings, and Armed Services Board of Contract Appeals Proceedings). This includes administrative proceeding at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include agency actions such as contract audits, site visits, corrective plans, or inspection of deliverables.

"Federal contracts and grants with total value greater than $10,000,000" means—

(1) The total value of all current, active contracts and grants, including all priced options; and

(2) The total value of all current, active orders including all priced options under indefinite-delivery, indefinite-quantity, 8(a), or requirements contracts (including task and delivery and multiple-award Schedules).

"Principal" means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity (*e.g.*, general manager; plant manager; head of a division or business segment; and similar positions).

(b) The offeror [_] has [_] does not have current active Federal contracts and grants with total value greater than $10,000,000.

(c) If the offeror checked "has" in paragraph (b) of this provision, the offeror represents, by submission of this offer, that the information it has entered in the Federal Awardee Performance and Integrity Information System (FAPIIS) is current, accurate, and complete as of the date of submission of this offer with regard to the following information:

(1) Whether the offeror, and/or any of its principals, has or has not, within the last five years, in connection with the award to or performance by the offeror of a Federal contract or grant, been the subject of a proceeding, at the Federal or State level that resulted in any of the following dispositions:

(i) In a criminal proceeding, a conviction.

(ii) In a civil proceeding, a finding of fault and liability that results in the payment of a monetary fine, penalty, reimbursement, restitution, or damages of $5,000 or more.

(iii) In an administrative proceeding, a finding of fault and liability that results in—

(A) The payment of a monetary fine or penalty of $5,000 or more; or

(B) The payment of a reimbursement, restitution, or damages in excess of $100,000.

(iv) In a criminal, civil, or administrative proceeding, a disposition of the matter by consent or compromise with an acknowledgment of fault by the Contractor if the proceeding could have led to any of the outcomes specified in paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this provision.

(2) If the offeror has been involved in the last five years in any of the occurrences listed in (c)(1) of this provision, whether the offeror has provided the requested information with regard to each occurrence.

(d) The offeror shall post the information in paragraphs (c)(1)(i) through (c)(1)(iv) of this provision in FAPIIS as required through maintaining an active registration in the System for Award Management database via https://www.acquisition.gov (see 52.204-7).

(End of provision)

(End of Addendum)

E.5 ADDENDUM TO 52.212-1 INSTRUCTIONS TO OFFERORS- COMMERCIAL ITEMS

To ensure timely and equitable evaluation of quotes, quoters must follow the instructions contained herein. Quoters are required to meet all solicitation requirements, including terms and conditions, representations and certifications, and technical requirements, in addition to those identified as evaluation factors. Failure to meet a requirement may

result in an offer being ineligible for award. Quoters must clearly identify any exception to the solicitation terms and conditions and provide complete accompanying rationale.

SUBMISSION OF QUOTATIONS:
Quoters should submit quotations in three volumes as specified below. Each part should be complete and prepared in accordance with the solicitation instruction to enable concurrent and separate evaluations of each part.

The response shall consist of three (3) separate volumes:
Volume I—Technical Quote
Volume II—Past Performance Information
Volume III—Pricing.

(a) The following page limitations and copies are established for each volume of the quote submitted in response to this solicitation, listed in Table E-1:

Table E-1:

QUOTE SECTION	*PAGE LIMIT*	*COPIES*
Technical	50	2 CDs and 5 Hard Copies
Past Performance	50	2 CDs and 5 Hard Copies
Price	No Limit	2 CDs and 2 Hard Copies
Phase-In Plan	30	2 CDs and 5 Hard Copies

(b) The following documents shall not be included in the calculation of the Technical Volume page count:
- Subcontracting/Joint Venture Efforts: Ostensible Subcontractor Rules Requirements
- Key Personnel Résumés
- Phase-In Plan
- Management Plan
- Credential Requirements

(c) A page is defined as one side of a sheet, 8 ½" x 11", with at least one inch margins on all sides, using not smaller than 12 point font. Foldouts count as an equivalent number of 8 ½" x 11" pages. The metric standard format most closely approximating the described standard 8 ½" x 11" size may also be used.

(d) Title Pages, Table of Contents, and responses to the Past Performance Questionnaire, Appendix and List of Acronyms are excluded from the page counts specified in paragraph (a) this provision. In addition, the price section of your quote is not page limited. However, this section is to be strictly limited to price information. Information that can be construed as belonging in one of the other sections of the quote will be so construed and counted against that section's page limitation.

(e) If final revisions are requested, separate page limitations will be specified in the Government's request for that submission.

(f) Pages submitted en excess of the limitations specified in this provision will not be evaluated by the Government and will be returned to the quoter.

(g) Include a cover letter with the proposal, attaching the completed SF1449 and Representations and Certifications specified in the Section E.8 of the solicitation. The cover letter must signed by an official authorized to contractually bind your company, including:

- Name and phone numbers to be contacted for clarification of questions of a technical nature.

- A statement that the quotation shall remain in effect for a minimum of 120 calendar days from the date the quotation was submitted.

- A statement regarding acceptance of the anticipated contact terms and conditions, or specific exceptions taken to any of the terms and conditions.

(h) All Quotes shall be delivered by 4:00 P.M. (PT), Wednesday, June 3, 2015. Late quotes will not be accepted. Please mail quotations to:

NASA Armstrong Flight Research Center
Attn: Shari Trigg, Contract Specialist
Solicitation Number: NND15531905Q
2825 East Avenue P, Building 703, M/S S323
Palmdale, CA 93550

(i) In addition to hard copies, each Offeror is required to submit its quote in electronic format. Two CDs, an original and a backup, for each Volume shall be prepared and submitted in Microsoft Office 2007 or 2010 applications (Word and Excel) or Adobe Acrobat. Further, the Microsoft Excel spreadsheets shall be submitted in Microsoft Excel format, and not in a scanned Microsoft Word or Adobe PDF file. Electronic media must be labeled or tagged with the RFQ Number, Company Name, Date Prepared, an indication of the files or range of files contained on the disks marked and in accordance with FAR 52.215-1(e), Restriction on Disclosure and Use of Data, and FAR 3.104-4, Disclosure, Protection, and Marking of Contractor Bid or Proposal Information and Source Selection Information. Offerors shall not embed sound or video files into the proposal files and are instructed to minimize the use of scanned images and keep embedded graphics as simple as possible. The electronic files shall be exact duplicates of the paper copies. If there is any inconsistency between data provided electronically and proposal hard copies, the hard copy data will take precedence. For electronic submissions, each volume of the proposal should be submitted as a separate electronic file.

TECHNICALLY ACCEPTABLE: The Quoter shall provide a written technical quote describing their approach and their existing capability to meet or exceed the various requirements identified within the Performance Work Statement (PWS) and the solicitation.

a. Technical Approach:
Provide a written technical approach describing existing capability to meet the requirements identified within the PWS to include a detailed description of how your organization plans to implement, accomplish and effectively manage the requirements in a sound, practical and feasible method. The Quoter's technical approach must also present sufficient information to reflect a thorough understanding of the PWS requirements and acceptable methods for ensuring the quality of deliverables with minimal risk to the Government.

b. Management / Staffing Approach:
The Quoter shall provide a written Management/Staffing Approach describing the management and staffing approach, organization, and processes to include a comprehensive integration of all management systems of the prime and subcontractors, if applicable. Identify processes specifically required to accomplish the PWS requirements as well as those systems and procedures that are to be set in place to adhere to regulations and requirements set forth in the solicitation. A statement describing appropriateness and rationale for the proposed skill mix, including skill types, and percentage of time personnel will spend time supporting the PWS should be included with the quote. A methodology of how to hire and retain qualified staff will be evaluated. Management/ Staffing approach should describe how the staffing required under the PWS will be maintained and include the timeline to fill positions at start of contract and to refill vacant positions. The contractor shall provide the résumés of the Key Personnel. The résumés should reflect the ability to perform the complexity of the work required in the PWS. All personnel working on the contract must be U.S. Citizens. Quoter shall include all credentials for all personnel in accordance with requirements of the PWS. The contractor shall submit a preliminary analysis of possible organizational

conflicts of interest that might flow from the award of the contract.

PAST PERFORMANCE: The Government is seeking to determine whether the Quoter has relevant experience that will ensure its successful performance of the PWS and solicitation requirements. The Quoter's quote shall include an itemized listing and summary of five (5) current or past contracts performing similar tasks to the PWS and solicitation requirements within the last three (3) years. The summary should detail how the current or past contract task requirements relate in relevancy and similarity to each task required by the PWS and solicitation. This information should focus on work performed, progress, and projects of a similar size, content, and complexity as this PWS and solicitation requirement. The Quoter should provide information on problems encountered during the performance of previous contracts, identification and explanation of any cost overruns or underruns, completion delays, terminations and the Quoter corrective actions. The Quoter should also provide any awards or quality demonstrators of performance achieved during performance of previous contracts.

The evaluation of past performance information will take into account past performance information regarding predecessor companies, key personnel who have relevant experience, major subcontractors and/or teaming members that will perform major or critical aspects of the requirement when such information is relevant to the PWS and solicitation requirement.

Current or past contracts from Federal, State, and local governments and private contracts will be considered relevant and or similar to this procurement if they are similar in size, content, and complexity. Contracts listed do not have to meet all of the criteria; however, contracts listed that meet all of the criteria may be more highly rated. The relevant similar contracts shall contain the following information:

- Contract number
- Type of contract
- Start and end dates
- Contract value
- Respective primary Point of Contact for the customer (name, agency or firm affiliation, city and state, phone number and e-mail)
- Summary of the work performed

Subcontractor Consent: Past performance information pertaining to a subcontractor cannot be disclosed to the Prime quoter without the subcontractor's consent. Provide with the quote a letter from all subcontractors that will perform major or critical aspects of the requirement, consenting to the release of their past performance information to the Prime quoter.
NASA has provided a "Past Performance Questionnaire" that the Quoters will submit to the cited Client POC(s) for completion. Quoter shall submit the questionnaire to the POC(s) via email and include the NASA POCs cited in the solicitation.

The completed survey form must be returned directly to Shari Trigg. Each client can email them to shari.c.trigg@nasa.gov. The completed questionnaire must come from the Client and be submitted no later than **May 22, 2015.** The Quoter is responsible for ensuring timely submission.

PRICE: Quoter's shall propose a Firm-Fixed Price (FFP) in Contract Line Item Numbers (CLINs) 000 through 005 (SF 1449, Block 21-24, Pages 1-2) and provide the Fully Burdened Monthly Rates (FBMR) for each labor category used to propose the base effort and all option years. The Quoter shall provide the FBMR under Table E.2

Table E-2:

Quoter's Category	SCA Labor Category	Exempt Labor Category	Fully Burdened

Quoters are required to propose schedule and pricing in accordance with the below period of performances for the Phase-In, Base Period and each Option Year, Table E-3. Quoters shall provide the monthly price and the extended price for each period.

Table E-3:

	Number of Month(s)	Start Date	Ending Date
Phase-In	1	1 Aug 2015	31 Aug 2015
Base	12	1 Sep 2015	31 Aug 2016
Option Year 1	12	1 Sep 2016	31 Aug 2017
Option Year 2	12	1 Sep 2017	31 Aug 2018
Option Year 3	12	1 Sep 2018	31 Aug 2019
Option Year 4	12	1 Sep 2019	31 Aug 2020

Quoters that do not propose pricing in accordance with the solicitation guidance may be considered unacceptable and thus precluded from receiving an award.

SUBCONRACTING / JOINT VENTURE EFFORTS:

The Quoter is cautioned to ensure that their teaming/major subcontracting arrangement does not violate the ostensible subcontracting rules set forth by the Small Business Administration. In the event a Quoter's proposal is determined to be unacceptable based on the SBA Ostensible Subcontractor Evaluation, the matter may be referred to the Small Business Administration (SBA) for a Certificate of Competency in accordance with the procedures outlined in FAR 19.1403 Status as a Service-disabled Veteran-owned Small Business Concern.

If the Quoter proposes using teammates/major subcontractors, the Quoter shall describe and explain their approach to teaming and subcontracting and for compliance with the Small Business Administration's (SBA) Ostensible Subcontractor Rule. Include specific details so that the Government can determine that the prime Contractor making the offer will be performing the primary and vital requirements for the contract. The description and explanation shall include the following:

- Rational for each of the arrangements
- Identification of points of contact
- Business size of each teammate or major subcontractor
- Identification of which party will be managing the contract
- Which teammate led pursuit of the contract
- The degree of collaboration in preparing and submitting the proposal
- How management and control policies will be implemented
- How work will be controlled, reported and reviewed
- Accessibility and flow of relevant support from internal and external sources, such as parent organizations, teaming arrangement, major subcontractors
- Any integration of teammate/major subcontractors into the management and supervisory hierarchy
- Which party possesses the background and expertise necessary for contract performance
- Identification of teammate that will perform the more complex and costly contract functions
- Description and amount of the work to be performed by each party (contractor, teammate and subcontractor), including the associate PWS paragraphs, percentage of the total work to be performed by each party, and whether each party will perform discreet tasks or a commingling of personnel from each party will perform each task

All Joint Ventures proposed by the Quoter must be officially approved by the SBA at the time of contract award.

NOTE: The Government is collecting this information in anticipation of the Small Business Administration's (SBA) size determination regarding any proposed final contract award. The information provided by Quoters regarding this topic is excluded from the page count limitations for the appropriate sections of the Quoter proposals. This information shall be provided as an appendix to the proposal.

PRE-QUOTATION CONFERENCE:

1852.215-77 Pre-proposal/Pre-Bid Conference (DEC 1988)

(a) A pre-proposal/pre-bid conference will be held as indicated below:

Date: May 19, 2015
Time: 9:00 a.m. PT
Location: Armstrong Flight Research Center, Edwards CA and Building 703, Palmdale, CA

Other Information, as applicable:

For purposes of badging, please provide the following information for all the individuals who will be attending the pre-quotation conference no later than 4:00 p.m. on May 13, 2015. All attendees must be U.S. citizens. Submit this information to Shari Trigg via email: Shari.C.Trigg@nasa.gov.

(b) Attendance of the pre-quotation conference is recommended, however, attendance is neither required nor a pre-requisite for quotation submission and will not be considered in the evaluation.

Full Name:
Company Affliation:
Citizenship:
Date of Birth:
Place of Birth:
Driver's license number and Issuing State:
Social Security Number (**Last 6 digits ONLY**: XXX -_ _ - _ _ _ _)

(End of Provision)

E.6 52.212-2 EVALUATION – COMMERCIAL ITEMS (OCT 2014)

Addendum to 52.212-2 Evaluation – Commercial Items

This is a competitive Price Performance Trade-off best value source selection where all evaluation factors other than price, when combined, are significantly more important than price. The evaluation factors are:

1. Technically Acceptable
2. Past Performance
3. Price

The evaluation process shall proceed as follows:
An initial review of quotes will be conducted to determine acceptability of the quotes in accordance with NFS 1815.305-70, *Identification of Unacceptable Proposals*. All unacceptable quotes will be eliminated from further evaluation.

Evaluation Factor #1—Technically Acceptable: The Technical Acceptable rating will consist of evaluation of the Technical Approach, Management Approach and Staffing Approach. The government's technical evaluation team shall evaluate the technical quotes on a pass/fail basis, assigning a rating of Acceptable or Unacceptable using the descriptions in the below table "Technical Acceptable/Unacceptable Ratings". The Quoter's technical quotes shall be evaluated to determine if the proposed approach and existing capability meet or exceed the various requirements identified within the PWS and the solicitation, using Table E-4.

Table E-4:

TECHNICAL ACCEPTABLE / UNACCEPTABLE RATINGS	
RATING	***DESCRIPTION***
Acceptable	Quote meets the minimum requirements of the solicitation
Unacceptable	Quote does NOT meet the minimum requirements of the solicitation

All technically acceptable quotes shall be treated equally except for their past performance records and prices. Failure to meet a requirement may result in a quote being determined technically unacceptable. Quoters must clearly identify any exception to the solicitation terms and conditions and provide complete accompanying rationale.

Evaluation Factor #2—Past Performance: The past performance evaluation is an assessment of the Government's confidence in the Quoter's ability to perform the solicitation requirements. This factor indicates the relevant quantitative and qualitative aspects of each Quoter's record of performing services or delivering products similar in size, content, and complexity as the requirements of the PWS and solicitation. The past performance evaluation shall be in accordance with FAR 15.305(a)(2), NFS 1815.305(a)(2), and this section.

There are two aspects to the past performance evaluation.

(1) The first is to evaluate the relevancy of the Quoter's present/past performance. Relevant performance includes performance of the Occupational Health Services contract similar or greater in size, content, and complexity of the effort described in the PWS and solicitation. The evaluation team will review the Quoter's Past Performance and identify the significant strengths, strengths, deficiencies, weaknesses, and/or significant weaknesses of the Quoter's quote in determining the relevancy of the present/ past performance to the task requirements of the PWS and solicitation and assign a Past Performance Relevancy Rating based on the following ratings and definitions.

(2) The second aspect of the past performance evaluation is to determine how well the contractor performed on previous contracts. Past performance information will be obtained on the relevant, similar current or past contracts listed by the Quoter listed in Volume II, Past Performance, to assist in determining the quality level of past performance. The Government's evaluation is not limited to past performance information on the listed contracts. Past performance information on work for commercial customers, local, state and federal Government that are relevant and similar to this procurement may also be evaluated. The Government can use past performance information obtained from the Government wide Past Performance Information Retrieval System (PPIRS), other agencies, questionnaires or other reasonable basis. The Quoter's past performance in occupational health, security, safety, and mission success will be evaluated as a part of this aspect of past performance.

The purpose of the past performance evaluation is to allow the government to assess the Quoter's ability to perform the effort described in this RFP, based on the Quoter's demonstrated present and past performance. The assessment process of the two aspects of past performance will result in an overall performance confidence assessment as defined in NFS 1815.305(a)(2). The evaluation team shall consider and clearly document each Quoter's relevant quantitative and qualitative aspects of past performance data and assign an overall confidence rating.

Past performance regarding predecessor companies, key personnel who have relevant experience, or sub-contractors that will perform major or critical aspects of the requirement will not be rated as highly as past performance information for the principal Quoter. Quoters with no relevant past or present performance history or the Quoter's performance record is so limited that no confidence assessment rating can be reasonably assigned shall receive the rating "Neutral," meaning the rating is treated neither favorably nor unfavorably. Past Performance shall be rated using the following levels of confidence ratings, using Table E-5:

Table E-5:

PERFORMANCE CONFINDENCE ASSESSMENTS	
RATING	***DESCRIPTION***
Very High Level of Confidence	The offeror's relevant past performance is of exceptional merit and is very highly pertinent to this acquisition, indicates exemplary performance in a timely, efficient, and economical manner and very minor (if any) problems with no adverse effect on overall performance. Based on the offeror's performance record, there is a very high level of confidence that the offeror will successfully perform the required effort. (One or more significant strengths exist. No significant weaknesses exist.)
High Level of Confidence	The offeror's relevant past performance is highly pertinent to this acquisition; demonstrating very effective performance that would be fully responsive to contract requirements. Offeror's past performance indicates

	that contract requirements were accomplished in a timely, efficient, and economical manner for the most part, with only minor problems that had little identifiable effect on overall performance. Based on the offeror's performance record, there is a high level of confidence that the offeror will successfully perform the required effort. (One or more significant strengths exist. Strengths outbalance any weakness.)
Moderate Level of Confidence	The offeror's relevant past performance is pertinent to this acquisition, and it demonstrates effective performance. Performance was fully responsive to contract requirements; there may have been reportable problems, but with little identifiable effect on overall performance. Based on the offeror's performance record, there is a moderate level of confidence that the offeror will successfully perform the required effort. (There may be strengths or weaknesses, or both.)
Low Level of Confidence	The offeror's relevant past performance is at least somewhat pertinent to this acquisition, and it meets or slightly exceeds minimum acceptable standards. Offeror achieved adequate results; there may have been reportable problems with identifiable, but not substantial, effects on overall performance. Based on the offeror's performance record, there is a low level of confidence that the offeror will successfully perform the required effort. Changes to the offeror's existing processes may be necessary in order to achieve contract requirements. (One or more weaknesses exist. Weaknesses outbalance strengths.)
Very Low Level of Confidence	The offeror's relevant past performance does not meet minimum acceptable standards in one or more areas; remedial action was required in one or more areas. Performance problems occurred in one or more areas which adversely affected overall performance. Based on the offeror's performance record, there is a very low level of confidence that the offeror will successfully perform the required effort. (One or more deficiencies or significant weaknesses exist.)
Neutral	In the case of an offeror without a record of relevant past performance or for whom information on past performance is not available, the offeror may not be evaluated favorably or unfavorably on past performance [see FAR 15.305(a) (2) (ii) and (iv)].

Evaluation Factor #3—PRICE: Quoters that do not propose pricing in accordance with the solicitation guidance may be considered unacceptable and thus precluded from receiving an award. The government may determine that a quote is unacceptable if the option prices or the fully burden monthly rates are significantly unbalanced. Evaluation of options shall not obligate the Government to exercise the option(s).

FAR Clause 52.217-8 "Option to Extend Services" is applicable to the OHS requirement and may be exercised within the limits and at the rates specified in the awarded contract. For evaluation of this option, the Government will multiply the monthly proposed rate of Option Year 4 of the contract by six (6) to determine the option's evaluated price.

The evaluated price for the base period will be determined by multiplying the proposed monthly price for the CLIN by the Government quantity identified in the CLIN. The total evaluated price will be determined by adding the evaluated price of the phase-in, base effort and all options to include the "Option to Extend Services". The contracting pricing model will be evaluated in terms of reasonableness for selection purposes and will not be included in the total price.

The CO may send relevant requests for clarification, in writing, to the Quoter(s). The CO may also request clarification of information contained in the pricing quote(s) or any other aspect of the quote(s). All clarification requests will require a written response from the Quoter within the time frames established by the CO. Responses to clarification questions will not be considered "discussions".

Evaluation Factor #4—SUBCONTRACTING / JOINT VENTURE EFFORTS:
The Government will perform an analysis to ensure that no apparent ostensible subcontract relationship has been proposed. The Small Business Administration (SBA) Ostensible Subcontracting Rule Information will be assessed to verify that the Quoter is eligible for award as a Small Business. If it appears that an ostensible subcontract may have been proposed, the proposal evaluation may proceed until a final determination is made by the SBA. Quoters are advised that evidence of non-compliance with this clause and FAR 52.219-14 may result in elimination of the Quoter from award.

BASIS OF AWARD:
The Government will award a contract resulting from this solicitation to the responsible Quoter using best value source selection in which competing Quoters' past performance history will be evaluated on a basis significantly more important than price consideration. By submission of its quote, the Quoter accedes to all solicitation requirements, including terms and conditions, representations and certifications, and technical requirements, in addition to those identified as evaluation factors. All such quotes shall be treated equally except for their price and performance records. Failure to meet a requirement may result in an offer being determined technically unacceptable. Quoters must clearly identify any exception to the solicitation terms and conditions and provide complete accompanying rationale.

The Government will award the phase-in to the contract awardee as a separate firm-fixed price purchase order. The phase-in will have a one month period. The contract base period will have a 12-month period of performance. Option periods 1, 2, 3 and 4 will have periods of performance of 12 months. Pricing will be based on the proposed pricing submitted.

(End of provision)

E.7 COMMUNICATIONS REGARDING THE SOLICITATION

(a) Questions or comments regarding this solicitation must be submitted in writing, cite the solicitation number, and be directed to the following Government representative:

Name: Shari Trigg, Contract Specialist

Email: Shari.C.Trigg@nasa.gov

Address: 2825 East Avenue P, Building 703, M/S S323, Palmdale, CA 93550

Oral questions will not be answered due to the possibility of misunderstanding or misinterpretation.

(b) Questions or comments should be submitted by May 22, 2015 to allow for analysis and dissemination of responses in advance of the quote due date. Late questions or comments are not guaranteed a response prior to the quote due date.

(c) Questions or comments shall NOT be directed to the technical activity personnel.

(End of provision)

E.8 52.212-3 Offeror Representations and Certifications—Commercial Items (MAR 2015) – Alternate I (OCT 2014)

The Offeror shall complete only paragraphs (b) of this provision if the Offeror has completed the annual representations and certification electronically via the System for Award Management (SAM) Web site accessed through http://www.acquisition.gov . If the Offeror has not completed the annual representations and certifications electronically, the Offeror shall complete only paragraphs (c) through (p) of this provision.

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

"Economically disadvantaged women-owned small business (EDWOSB) concern" means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States and who are economically disadvantaged in accordance with 13 CFR part 127. It automatically qualifies as a women-owned small business eligible under the WOSB Program.

"Forced or indentured child labor" means all work or service—

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

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

"Highest-level owner" means the entity that owns or controls an immediate owner of the offeror, or that owns or controls one or more entities that control an immediate owner of the offeror. No entity owns or exercises control of the highest level owner.

"Immediate owner" means an entity, other than the offeror, that has direct control of the offeror. Indicators of control include, but are not limited to, one or more of the following: Ownership or interlocking management, identity of interests among family members, shared facilities and equipment, and the common use of employees.

"Inverted domestic corporation," means a foreign incorporated entity that meets the definition of an inverted domestic corporation under 6 U.S.C. 395(b), applied in accordance with the rules and definitions of 6 U.S.C. 395(c).

"Manufactured end product" means any end product in product and service codes (PSCs) 1000-9999, except—

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

(2) Product or Service Group (PSG) 87, Agricultural Supplies;

(3) PSG 88, Live Animals;

(4) PSG 89, Subsistence;

(5) PSC 9410, Crude Grades of Plant Materials;

(6) PSC 9430, Miscellaneous Crude Animal Products, Inedible;

(7) PSC 9440, Miscellaneous Crude Agricultural and Forestry Products;

(8) PSC 9610, Ores;

(9) PSC 9620, Minerals, Natural and Synthetic; and

(10) PSC 9630, Additive Metal Materials.

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

"Restricted business operations" means business operations in Sudan that include power production activities, mineral extraction activities, oil-related activities, or the production of military equipment, as those terms are defined in the Sudan Accountability and Divestment Act of 2007 (Pub. L. 110-174). Restricted business operations do not include business operations that the person (as that term is defined in Section 2 of the Sudan Accountability and Divestment Act of 2007) conducting the business can demonstrate—

(1) Are conducted under contract directly and exclusively with the regional government of southern Sudan;

(2) Are conducted pursuant to specific authorization from the Office of Foreign Assets Control in the Department of the Treasury, or are expressly exempted under Federal law from the requirement to be conducted under such authorization;

(3) Consist of providing goods or services to marginalized populations of Sudan;

(4) Consist of providing goods or services to an internationally recognized peacekeeping force or humanitarian organization;

(5) Consist of providing goods or services that are used only to promote health or education; or

(6) Have been voluntarily suspended.

Sensitive technology—

(1) Means hardware, software, telecommunications equipment, or any other technology that is to be used specifically—

(i) To restrict the free flow of unbiased information in Iran; or

(ii) To disrupt, monitor, or otherwise restrict speech of the people of Iran; and

(2) Does not include information or informational materials the export of which the President does not have the authority to regulate or prohibit pursuant to section 203(b)(3) of the International Emergency Economic Powers Act (50 U.S.C. 1702(b)(3)).

"Service-disabled veteran-owned small business concern"—

(1) Means a small business concern—

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

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

"Small disadvantaged business concern, consistent with 13 CFR 124.1002," means a small business concern under the size standard applicable to the acquisition, that--

(1) Is at least 51 percent unconditionally and directly owned (as defined at 13 CFR 124.105) by--

(i) One or more socially disadvantaged (as defined at 13 CFR 124.103) and economically disadvantaged (as defined at 13 CFR 124.104) individuals who are citizens of the United States; and

(ii) Each individual claiming economic disadvantage has a net worth not exceeding $750,000 after taking into account the applicable exclusions set forth at 13 CFR 124.104(c)(2); and

(2) The management and daily business operations of which are controlled (as defined at 13.CFR 124.106) by individuals, who meet the criteria in paragraphs (1)(i) and (ii) of this definition.

"Subsidiary" means an entity in which more than 50 percent of the entity is owned—

(1) Directly by a parent corporation; or

(2) Through another subsidiary of a parent corporation.

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

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

(2) The management and daily business operations of which are controlled by one or more veterans.

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

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

(1) That is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

"Women-owned small business (WOSB) concern eligible under the WOSB Program (in accordance with 13 CFR part 127)," means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States.

(b)

(1) *Annual Representations and Certifications*. Any changes provided by the offeror in paragraph (b)(2) of this provision do not automatically change the representations and certifications posted on the SAM website.

(2) The offeror has completed the annual representations and certifications electronically via the SAM website accessed through https://www.acquisition.gov. After reviewing the SAM database information, the offeror verifies by submission of this offer that the representation and certifications currently posted electronically at FAR 52.212-3, Offeror Representations and Certifications—Commercial Items, have been entered or updated in the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201), except for paragraphs _____. *[Offeror to identify the applicable paragraphs at (c) through (p) of this provision that the offeror has completed for the purposes of this solicitation only, if any. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer. Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted electronically on SAM.]*

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

(1) *Small business concern*. The offeror represents as part of its offer that it [_] is, [_] is not a small business concern.

(2) Veteran-owned small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents as part of its offer that it [_] is, [_] is not a veteran-owned small business concern.

(3) Service-disabled veteran-owned small business concern. [Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (c)(2) of this provision.] The offeror represents as part of its offer that it [_] is, [_] is not a service-disabled veteran-owned small business concern.

(4) Small disadvantaged business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it [_] is, [_] is not, a small disadvantaged business concern as defined in 13 CFR 124.1002.

(5) Women-owned small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it [_] is, [_] is not a women-owned small business concern.

Note: Complete paragraphs (c)(8) and (c)(9) only if this solicitation is expected to exceed the simplified acquisition threshold.

(6) WOSB concern eligible under the WOSB Program. [Complete only if the offeror represented itself as a women-owned small business concern in paragraph (c)(5) of this provision.] The offeror represents that—

> (i) It [_] is, [_] is not a WOSB concern eligible under the WOSB Program, has provided all the required documents to the WOSB Repository, and no change in circumstances or adverse decisions have been issued that affects its eligibility; and
>
> (ii) It [_] is, [_] is not a joint venture that complies with the requirements of 13 CFR part 127, and the representation in paragraph (c)(6)(i) of this provision is accurate for each WOSB concern eligible under the WOSB Program participating in the joint venture. [The offeror shall enter the name or names of the WOSB concern eligible under the WOSB Program and other small businesses that are participating in the joint venture: _____.] Each WOSB concern eligible under the WOSB Program participating in the joint venture shall submit a separate signed copy of the WOSB representation.

(7) Economically disadvantaged women-owned small business (EDWOSB) concern. [Complete only if the offeror represented itself as a WOSB concern eligible under the WOSB Program in (c)(6) of this provision.] The offeror represents that—

> (i) It [_] is, [_] is not an EDWOSB concern, has provided all the required documents to the WOSB Repository, and no change in circumstances or adverse decisions have been issued that affects its eligibility; and
>
> (ii) It [_] is, [_] is not a joint venture that complies with the requirements of 13 CFR part 127, and the representation in paragraph (c)(7)(i) of this provision is accurate for each EDWOSB concern participating in the joint venture. [The offeror shall enter the name or names of the EDWOSB concern and other small businesses that are participating in the joint venture: _____.] Each EDWOSB concern participating in the joint venture shall submit a separate signed copy of the EDWOSB representation.

(8) Women-owned business concern (other than small business concern). [Complete only if the offeror is a women-owned business concern and did not represent itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents that it [_] is, a women-owned business concern.

(9) *Tie bid priority for labor surplus area concerns.* If this is an invitation for bid, small business offerors may identify the labor surplus areas in which costs to be incurred on account of manufacturing or production (by offeror or first-tier subcontractors) amount to more than 50 percent of the contract price:

_____

(10) HUBZone small business concern. [Complete only if the offeror represented itself as a small business concern in paragraph (c)(1) of this provision.] The offeror represents, as part of its offer, that--

(i) It [_] is, [_] is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material changes in ownership and control, principal office, or HUBZone employee percentage have occurred since it was certified in accordance with 13 CFR part 126; and

(ii) It [_] is, [_] is not a HUBZone joint venture that complies with the requirements of 13 CFR part 126, and the representation in paragraph (c)(10)(i) of this provision is accurate for each HUBZone small business concern participating in the HUBZone joint venture. [*The offeror shall enter the names of each of the HUBZone small business concerns participating in the HUBZone joint venture*: _____.] Each HUBZone small business concern participating in the HUBZone joint venture shall submit a separate signed copy of the HUBZone representation.

(d) Representations required to implement provisions of Executive Order 11246 --

(1) Previous contracts and compliance. The offeror represents that --

(i) It [_] has, [_] has not, participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation; and

(ii) It [_] has, [_] has not, filed all required compliance reports.

(2) *Affirmative Action Compliance*. The offeror represents that --

(i) It [_] has developed and has on file, [_] has not developed and does not have on file, at each establishment, affirmative action programs required by rules and regulations of the Secretary of Labor (41 CFR parts 60-1 and 60-2), or

(ii) It [_] has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(e) *Certification Regarding Payments to Influence Federal Transactions* (31 U.S.C. 1352). (Applies only if the contract is expected to exceed $150,000.) By submission of its offer, the offeror certifies to the best of its knowledge and belief that no Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with the award of any resultant contract. If any registrants under the Lobbying Disclosure Act of 1995 have made a lobbying contact on behalf of the offeror with respect to this contract, the offeror shall complete and submit, with its offer, OMB Standard Form LLL, Disclosure of Lobbying Activities, to provide the name of the registrants. The offeror need not report regularly employed officers or employees of the offeror to whom payments of reasonable compensation were made.

(f) *Buy American Certificate.* (Applies only if the clause at Federal Acquisition Regulation (FAR) 52.225-1, Buy American – Supplies, is included in this solicitation.)

(1) The offeror certifies that each end product, except those listed in paragraph (f)(2) of this provision, is a domestic end product and that for other than COTS items, the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The offeror shall list as foreign end products those end products manufactured in the United States that do not qualify as domestic end products, *i.e.*, an end product that is not a COTS item and does not meet the component test in paragraph (2) of the definition of "domestic end product." The terms "commercially available off-the-shelf (COTS) item," "component," "domestic end product," "end product," "foreign end product," and "United States" are defined in the clause of this solicitation entitled "Buy American—Supplies."

(2) Foreign End Products:

LINE ITEM NO.	COUNTRY OF ORIGIN

[List as necessary]

(3) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(g)

(1) *Buy American -- Free Trade Agreements -- Israeli Trade Act Certificate*. (Applies only if the clause at FAR 52.225-3, Buy American -- Free Trade Agreements -- Israeli Trade Act, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(1)(ii) or (g)(1)(iii) of this provision, is a domestic end product and that for other than COTS items, the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The terms “Bahrainian, Moroccan, Omani, Panamanian, or Peruvian end product,” “commercially available off-the-shelf (COTS) item,” “component,” “domestic end product,” “end product,” “foreign end product,” “Free Trade Agreement country,” “Free Trade Agreement country end product,” “Israeli end product,” and “United States” are defined in the clause of this solicitation entitled “Buy American--Free Trade Agreements--Israeli Trade Act.”

(ii) The offeror certifies that the following supplies are Free Trade Agreement country end products (other than Bahrainian, Moroccan, Omani, Panamanian, or Peruvian end products) or Israeli end products as defined in the clause of this solicitation entitled “Buy American—Free Trade Agreements—Israeli Trade Act”:

Free Trade Agreement Country End Products (Other than Bahrainian, Moroccan, Omani, Panamanian, or Peruvian End Products) or Israeli End Products:

LINE ITEM NO.	COUNTRY OF ORIGIN

[*List as necessary*]

(iii) The offeror shall list those supplies that are foreign end products (other than those listed in paragraph (g)(1)(ii) or this provision) as defined in the clause of this solicitation entitled “Buy American—Free Trade Agreements—Israeli Trade Act.” The offeror shall list as other foreign end products those end products manufactured in the United States that do not qualify as domestic end products, *i.e.*, an end product that is not a COTS item and does not meet the component test in paragraph (2) of the definition of “domestic end product.”

Other Foreign End Products:

LINE ITEM NO.	COUNTRY OF ORIGIN

[*List as necessary*]

(iv) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25.

(2) *Buy American—Free Trade Agreements—Israeli Trade Act Certificate, Alternate I*. If Alternate I to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products as defined in the clause of this solicitation entitled “Buy American—Free Trade Agreements—Israeli Trade Act”:

Canadian End Products:

Line Item No.:

_____

[List as necessary]

(3) *Buy American—Free Trade Agreements—Israeli Trade Act Certificate, Alternate II.* If Alternate II to the clause at FAR 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Canadian end products or Israeli end products as defined in the clause of this solicitation entitled “Buy American--Free Trade Agreements--Israeli Trade Act":

Canadian or Israeli End Products:

Line Item No.:	Country of Origin:

[*List as necessary*]

(4) *Buy American—Free Trade Agreements—Israeli Trade Act Certificate, Alternate III.* If Alternate III to the clause at 52.225-3 is included in this solicitation, substitute the following paragraph (g)(1)(ii) for paragraph (g)(1)(ii) of the basic provision:

(g)(1)(ii) The offeror certifies that the following supplies are Free Trade Agreement country end products (other than Bahrainian, Korean, Moroccan, Omani, Panamanian, or Peruvian end products) or Israeli end products as defined in the clause of this solicitation entitled “Buy American—Free Trade Agreements—Israeli Trade Act”:

Free Trade Agreement Country End Products (Other than Bahrainian, Korean, Moroccan, Omani, Panamanian, or Peruvian End Products) or Israeli End Products:

Line Item No.:	Country of Origin:

[*List as necessary*]

(5) *Trade Agreements Certificate*. (Applies only if the clause at FAR 52.225-5, Trade Agreements, is included in this solicitation.)

(i) The offeror certifies that each end product, except those listed in paragraph (g)(5)(ii) of this provision, is a U.S.-made or designated country end product as defined in the clause of this solicitation entitled "Trade Agreements."

(ii) The offeror shall list as other end products those end products that are not U.S.-made or designated country end products.

Other End Products

Line Item No.:	Country of Origin:

[*List as necessary*]

(iii) The Government will evaluate offers in accordance with the policies and procedures of FAR Part 25. For line items covered by the WTO GPA, the Government will evaluate offers of U.S.-made or designated country end products without regard to the restrictions of the Buy American statute. The Government will consider for award only offers of U.S.-made or designated country end products unless the Contracting Officer determines that there are no offers for such products or that the offers for such products are insufficient to fulfill the requirements of the solicitation.

(h) *Certification Regarding Responsibility Matters (Executive Order 12689)*. (Applies only if the contract value is expected to exceed the simplified acquisition threshold.) The offeror certifies, to the best of its knowledge and belief, that the offeror and/or any of its principals--

(1) [_] Are, [_] are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(2) [_] Have, [_] have not, within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a Federal, state or local government contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating Federal criminal tax laws, or receiving stolen property; and

(3) [_] Are, [_] are not presently indicted for, or otherwise criminally or civilly charged by a Government entity with, commission of any of these offenses enumerated in paragraph (h)(2) of this clause; and

(4) [_] Have, [_] have not, within a three-year period preceding this offer, been notified of any delinquent Federal taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied.

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

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

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

(ii) Examples.

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

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

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

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

(i) Certification Regarding Knowledge of Child Labor for Listed End Products (Executive Order 13126). [The Contracting Officer must list in paragraph (i)(1) any end products being acquired under this solicitation that are included in the List of Products Requiring Contractor Certification as to Forced or Indentured Child Labor, unless excluded at 22.1503(b).]

(1) Listed End Product

Listed End Product:	Listed Countries of Origin:

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

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

[_] (ii) The offeror may supply an end product listed in paragraph (i)(1) of this provision that was mined, produced, or manufactured in the corresponding country as listed for that product. The

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

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

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

(2) [_] Outside the United States.

(k) Certificates regarding exemptions from the application of the Service Contract Labor Standards. (Certification by the offeror as to its compliance with respect to the contract also constitutes its certification as to compliance by its subcontractor if it subcontracts out the exempt services.) [The contracting officer is to check a box to indicate if paragraph (k)(1) or (k)(2) applies.]

(1) [_] Maintenance, calibration, or repair of certain equipment as described in FAR 22.1003-4(c)(1). The offeror [_] does [_] does not certify that—

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

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

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

(2) [_] Certain services as described in FAR 22.1003-4(d)(1). The offeror [_] does [_] does not certify that—

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

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

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

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

(3) If paragraph (k)(1) or (k)(2) of this clause applies—

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

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

(l) *Taxpayer identification number (TIN) (26 U.S.C. 6109, 31 U.S.C. 7701)*. (Not applicable if the offeror is required to provide this information to the SAM database to be eligible for award.)

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

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

(3) Taxpayer Identification Number (TIN).

[_] TIN:_____.

[_] TIN has been applied for.

[_] TIN is not required because:

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

[_] Offeror is an agency or instrumentality of a foreign government;

[_] Offeror is an agency or instrumentality of the Federal Government;

(4) Type of organization.

[_] Sole proprietorship;

[_] Partnership;

[_] Corporate entity (not tax-exempt);

[_] Corporate entity (tax-exempt);

[_] Government entity (Federal, State, or local);

[_] Foreign government;

[_] International organization per 26 CFR 1.6049-4;

[_] Other _____.

(5) Common parent.

[_] Offeror is not owned or controlled by a common parent:

[_] Name and TIN of common parent:

Name _____

TIN _____

(m) *Restricted business operations in Sudan*. By submission of its offer, the offeror certifies that the offeror does not conduct any restricted business operations in Sudan.

(n) Prohibition on Contracting with Inverted Domestic Corporations—

(1) Government agencies are not permitted to use appropriated (or otherwise made available) funds for contracts with either an inverted domestic corporation, or a subsidiary of an inverted domestic corporation, unless the exception at 9.108-2(b) applies or the requirement is waived in accordance with the procedures at 9.108-4.

(2) *Representation*. By submission of its offer, the offeror represents that—

(i) It is not an inverted domestic corporation; and

(ii) It is not a subsidiary of an inverted domestic corporation.

(o) Prohibition on contracting with entities engaging in certain activities or transactions relating to Iran.

(1) The offeror shall email questions concerning sensitive technology to the Department of State at CISADA106@state.gov.

(2) Representation and Certification. Unless a waiver is granted or an exception applies as provided in paragraph (o)(3) of this provision, by submission of its offer, the offeror—

(i) Represents, to the best of its knowledge and belief, that the offeror does not export any sensitive technology to the government of Iran or any entities or individuals owned or controlled by, or acting on behalf or at the direction of, the government of Iran;

(ii) Certifies that the offeror, or any person owned or controlled by the offeror, does not engage in any activities for which sanctions may be imposed under section 5 of the Iran Sanctions Act; and

(iii) Certifies that the offeror, and any person owned or controlled by the offeror, does not knowingly engage in any transaction that exceeds $3,000 with Iran's Revolutionary Guard Corps or any of its officials, agents, or affiliates, the property and interests in property of which are blocked pursuant to the International Emergency Economic Powers Act (50(U.S.C. 1701 et seq.) (see OFAC's Specially Designated Nationals and Blocked Persons List at http://www.treasury.gov/ofac/downloads/t11sdn.pdf).

(3) The representation and certification requirements of paragraph (o)(2) of this provision do not apply if—

(i) This solicitation includes a trade agreements certification (e.g., 52.212-3(g) or a comparable agency provision); and

(ii) The offeror has certified that all the offered products to be supplied are designated country end products.

(p) *Ownership or Control of Offeror*. (Applies in all solicitations when there is a requirement to be registered in SAM or a requirement to have a DUNS Number in the solicitation.

(1) The Offeror represents that it [ ] has or [ ] does not have an immediate owner. If the Offeror has more than one immediate owner (such as a joint venture), then the Offeror shall respond to paragraph (2) and if applicable, paragraph (3) of this provision for each participant in the joint venture.

(2) If the Offeror indicates "has" in paragraph (p)(1) of this provision, enter the following information:

Immediate owner CAGE code:_____

Immediate owner legal name:_____

(Do not use a "doing business as" name)

Is the immediate owner owned or controlled by another entity:

[ ] Yes or [ ] No.

(3) If the Offeror indicates "yes" in paragraph (p)(2) of this provision, indicating that the immediate owner is owned or controlled by another entity, then enter the following information:

Highest level owner CAGE code:_____

Highest level owner legal name:_____

(Do not use a "doing business as" name)

(End of Provision)

Alternate I (Oct 2014). As prescribed in 12.301(b)(2), add the following paragraph (c)(11) to the basic provision:

(11) (Complete if the offeror has represented itself as disadvantaged in paragraph (c)(4) of this provision.)

[*The offeror shall check the category in which its ownership falls*]:

____ Black American.

___ Hispanic American.

___ Native American (American Indians, Eskimos, Aleuts, or Native Hawaiians).

___ Asian-Pacific American (persons with origins from Burma, Thailand, Malaysia, Indonesia, Singapore, Brunei, Japan, China, Taiwan, Laos, Cambodia (Kampuchea), Vietnam, Korea, The Philippines, Republic of Palau, Republic of the Marshall Islands, Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands, Guam, Samoa, Macao, Hong Kong, Fiji, Tonga, Kiribati, Tuvalu, or Nauru).

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

___ Individual/concern, other than one of the preceding.

E.9 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

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

Federal Acquisition Regulation (FAR) clauses: http://www.acqnet.gov/far/

NASA FAR Supplement (NFS) clauses: http://www.hq.nasa.gov/office/procurement/regs/nfstoc.htm

E.10 SUBMISSION OF INVOICES

(a) In accordance with the contract clause entitled Payments (FAR 52.232-1), payment will be made by the

Government to the Contractor no more than monthly based on receipt of a proper invoice and satisfactory contract performance. The Contractor shall invoice for 12 equal payments of the total Firm Fixed-Price for the contract period.

(b) A proper invoice is defined as containing the following information:

(1) Contract/Task Number,
(2) Name and address of Contractor,
(3) Invoice date,
(4) Invoice number and Taxpayer Identification Number,
(5) CLIN, quantity, unit of measure, unit price and extended price for services performed;
(6) Total amount due, per CLIN
(7) Name and title of signer, signature and date;

(c) All invoices marked either "Interim" or "Final" as appropriate, shall be sent directly to the Payment Office at the following address:

NASA Shared Services Center
Financial Management Division (FMD)
Accounts Payable
Building 1111, C. Road
Stennis Space Center, MS 39529
*Email: NSSC-AccountsPayable@nasa.gov

*Electronic submission is preferred but not required.

(d) Invoice copies marked either "Interim" or "Final" as appropriate, shall be emailed to the Contracting Officer and Contracting Officer Representative.

(e) All payments will be made via electronic funds transfer. Payment will be forwarded to the financial institution and account identified in the Standard Form 3881 executed by the Contractor.

(End of Clause)

(End of provision)

E.11 1852.223-73 SAFETY AND HEALTH PLAN (NOV 2004) – ALTERNATE I (NOV 2004)

(a) The apparent low bidder, upon request by the Contracting Officer, shall submit a detailed safety and occupational health plan (see NPR 8715.3, NASA Safety Manual, Appendices). The plan shall be submitted within the time specified by the Contracting Officer. Failure to submit an acceptable plan shall make the bidder ineligible for the award of a contract.

(b) When applicable, the plan shall address the policies, procedures, and techniques that will be used to ensure the safety and occupational health of the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), and high-value equipment and property.

(c) The plan shall similarly address subcontractor employee safety and occupational health for those proposed subcontracts that contain one or more of the following conditions:

(1) The work will be conducted completely or partly on premises owned or controlled by the government.

(2) The work includes construction, alteration, or repair of facilities in excess of the simplified acquisition threshold.

(3) The work, regardless of place of performance, involves hazards that could endanger the public,

astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), or high value equipment or property, and the hazards are not adequately addressed by Occupational Safety and Health Administration (OSHA) or Department of Transportation (DOT) regulations (if applicable).

(4) When the assessed risk and consequences of a failure to properly manage and control the hazards warrants use of the clause.

(d) This plan, as approved by the Contracting Officer, will be included in any resulting contract.

(End of provision)

E.12 1852.233-70 Protests to NASA (OCT 2002)

Potential bidders or offerors may submit a protest under 48 CFR Part 33 (FAR Part 33) directly to the Contracting Officer. As an alternative to the Contracting Officer's consideration of a protest, a potential bidder or offeror may submit the protest to the Assistant Administrator for Procurement, who will serve as or designate the official responsible for conducting an independent review. Protests requesting an independent review shall be addressed to Assistant Administrator for Procurement, NASA Code H, Washington, DC 20546-0001.

(End of provision)

PERFORMANCE WORK STATEMENT (PWS)

NASA/Armstrong Flight Research Center

Occupational Health Services

Performance Work Statement, Revision (4), dated April 28, 2015

1.0 BACKGROUND

1.1 This Performance Works Statement (PWS) describes Occupational Health Services to be performed at the National Aeronautics and Space Administration (NASA) Neil A. Armstrong Flight Research Center (AFRC), located on Edwards Air Force Base (EAFB) in Edwards, California (CA). The specific services covered are Occupational Medicine (to include Occupational Health Nursing and Fitness Center Management), as well as Industrial Hygiene and Health Physics (i.e. Radiation Safety). Services specifically EXCLUDED from this PWS are: Employee Assistance Program (EAP), Workplace Drug-Testing (including Specimen Collection and/or Medical Review), Workers' Compensation Case Management, and Environmental Management. Though certain Health Physics functions are required (e.g. laser permitting), there is no specific requirement for a Health Physicist.

1.2 AFRC, formerly known as the NASA Hugh L. Dryden Flight Research Center, is located approximately 80 miles northeast of Los Angeles, CA. An AFRC component facility (Building 703) supports the AFRC Science Mission Directorate aircraft, and is located in Palmdale, CA, approximately 50 miles northeast of Los Angeles, CA and 32 miles from EAFB. The NASA Aerospace, Education, and Research Operations (AERO) Institute is also located in Palmdale, CA, 5 miles from Building 703; it is likewise staffed by personnel from AFRC main campus. Overall, AFRC conducts aeronautical research and testing, along with airborne science operations, in accordance with NASA's strategic mission, utilizing about 1,100 on-site personnel—to include Civil Servants, Contractor personnel and other visitors.

1.3 The Contractor's primary requirement under this contract is to ensure the safety and health of workers through compliance with all applicable laws, regulations, policies and standards related to occupational health.

1.4 NASA has defined the requirements for an Occupational Health Program under NASA Procedural Requirement (NPR) 1800.1, entitled, "Occupational Health Program Procedures". Many of these requirements reflect or expand upon other Federal requirements, as promulgated through the Occupational Safety and Health Administration (OSHA), the Federal Aviation Administration (FAA), the Federal Motor Carrier Safety Administration (FMCSA), and various other organizations responsible for establishing industry standards such as the American Conference on Governmental Industrial Hygienists (ACGIH). More NASA-specific procedures for implementing these requirements are found in various AFRC Operational Procedures, Standards, Plans and Policies. The PWS outlines what objectives the Contractor shall accomplish to fulfill the specific elements of NPR 1800.1 and related Center documents. For the purposes of this requirement, the term 'Occupational Medicine' shall include the functions of Occupational Health Nursing and Fitness Center Management, unless otherwise noted. The term 'Industrial Hygiene' shall also include the function of Health Physics (Radiation Safety), unless otherwise noted.

2.0 OBJECTIVES

2.1 OCCUPATIONAL MEDICINE

The objectives of the Occupational Medicine function are accomplished through primary (e.g. job certification, fitness center or travel medical examinations), secondary (e.g. medical surveillance examinations) and tertiary (e.g. illness and injury management, medical emergency response) prevention activities. The Occupational Medicine function also promotes the health of the AFRC workforce through the operation and management of an on-site Fitness Center. The Contractor's Occupational Medicine staff shall provide services and materials to meet requirements in the following functional areas:

2.1.1 Job Certification Medical Examinations (e.g. Respirator Use, Crane/Equipment Operation, Aircrew Medical Examinations, etc.)

2.1.2 Federal Aviation Administration (FAA) Medical Examinations (to include First-Class medical certification)

2.1.3 Department of Transportation (DOT) Medical Examinations, i.e. Federal Motor Carrier Safety Administration (FMCSA) Medical Examinations

2.1.4 Travel Clearances and Travel Medical Examinations

2.1.5 Medical Surveillance Examinations (e.g. Audiometry, Lead Exposure Monitoring, Laser Eye Exams, Methylene Chloride medical surveillance, etc.)

2.1.6 Occupational Illness and Injury Examinations

2.1.7 Preventive Health Examinations

2.1.8 Fitness Center Medical Clearances

2.1.9 Health Promotion Activities, such as didactic educational events, blood pressure screenings, staffing a health promotion booth at Safety Day, etc.

2.1.10 Health-Related Education and Training (e.g. Hearing Conservation, Blood-Borne Pathogens, etc.)

2.1.11 Cardiopulmonary Resuscitation (CPR)/First-Aid/Automated External Defibrillator (AED) Training

2.1.12 Infection Control

2.1.13 Medical Emergency Response, to include Basic Life Support (BLS) and the initial steps of Advanced Cardiovascular Life Support (ACLS)

2.1.14 Automated External Defibrillator (AED) Program Management

2.1.15 Fitness Center Management (Formal class instruction and/or personal training services are EXCLUDED).

2.2 INDUSTRIAL HYGIENE (IH)

The objectives of the Industrial Hygiene function are accomplished through the anticipation (e.g. document reviews and permits), recognition (e.g. workplace exposure assessment), evaluation (e.g. appropriate sampling, surveillance and analysis of workplace hazards) and control (e.g. recommendation of workplace controls, as well as education, training and certification) of workplace health hazards. Controls generally include: 1) Elimination or substitution of materials; 2) Engineering controls to prevent or minimize potential exposure to workers; 3) Administrative or work practice controls to prevent or minimize exposure to workers; and/or 4) Appropriate use of personal protective equipment by the worker. The Contractor's IH staff shall provide services and materials to fulfill requirements in the following functional areas:

2.2.1 Hazard Communication

2.2.2 Chemical Hygiene (Laboratory Safety)

2.2.3 Toxic and Hazardous Substances

2.2.4 Lead, Asbestos and Mercury

2.2.5 Hexavalent Chromium (Chromium VI)

2.2.6 Cadmium

2.2.7 Benzene

2.2.8 Formaldehyde

2.2.9 Confined Space

2.2.10 Blood-Borne Pathogens and Biosafety

2.2.11 Nanotoxicity

2.2.12 Reproductive and Developmental Health

2.2.13 Hearing Conservation

2.2.14 Ergonomics

2.2.15 Indoor Air Quality

2.2.16 Thermal Stress

2.2.17 Local Exhaust Ventilation

2.2.18 Respiratory Protection

2.2.19 Ionizing Radiation

2.2.20 Radiofrequency and Microwave Radiation

2.2.21 Laser Safety

2.2.22 Cryogen Safety

2.2.23 Illumination

2.2.24 Water Quality

3.0 SCOPE

3.1 OCCUPATIONAL MEDICINE (OM)

3.1.1 Size - The medical facility at AFRC is referred to as the "Health Unit". The AFRC Health Unit is located on the main campus, with a separate Medical Office operated at Building 703. Additionally, the AFRC Fitness Center is a 4,350 square foot facility with two large fitness areas (one primarily for equipment, the other for stretching, aerobics and group exercise); the facility includes men's and women's locker rooms and shower facilities, as well as an administrative office. On average, 25-30 employees (Civil Servant and Contractor) utilize the facility each work day.

3.1.2 Job Certification Physical Examinations: Job certification physicals address the question of whether or not an employee is medically qualified to perform a specific job or function. These examinations assure the employing organization (as well as the individual and the individual's Supervisor) that the individual is medically qualified to perform the job, or a specific aspect of the job (e.g. respirator use). Job certification examinations are provided by NASA at no cost to the employee (Civil Servant or Contractors). Many of these exams are accomplished in accordance with guidance from OSHA, NASA, or other regulatory authorities. Communication of the assessment is made to the responsible parties (usually the Supervisor and employee) in written format (e.g. the AFRC "Request for Medical Clearance" form).

3.1.3 Medical Surveillance Examinations: Medical surveillance exams address the question of whether the work or its environment is producing deleterious health effects on the employee. As such, medical surveillance examinations are a type of secondary prevention for health and safety in the workplace. For example, the AFRC Hearing Conservation Program outlines requirements for audiometric measurement and appropriate training of employees who are exposed to hazardous noise on the job. Examples of other surveillance examinations include: Laser Eye Exams, Lead Exposure, and Methylene Chloride Exposure. As with Job Certification examinations, communication of the assessment is made to the responsible parties in written format (e.g. the AFRC "Request for Medical Clearance" form).

3.1.4 Periodic Health Maintenance Examinations: Preventive Health Examinations (also referred to as "Executive Physicals") consist of screening observations or tests to detect disease in an early, more treatable phase, before symptoms manifest and are more detrimental. Periodic health maintenance examinations are offered to Civil Servants as a benefit of their employment; however, these exams are not mandatory. The scope and frequency of the exam is specified in NPR 1800.1.

3.1.5 Fitness Center Clearances: Before using the AFRC Fitness Center, a participant must receive a medical clearance in accordance with NPR 1800.1.

3.1.6 Travel Clearances: NASA Civil Servants who are traveling overseas will receive a medical evaluation and clearance performed in accordance with NPR 1800.1.

3.1.7 Occupational Illnesses & Injuries: The Occupational Medical staff shall treat and manage the occasional work-related injury or illness. All AFRC personnel (Civil Servants and Contractors) with occupational illnesses or injuries may be initially treated within the capabilities of the AFRC Health Unit. There is no on-site X-ray or laboratory capability, so more complicated or serious injuries and illnesses are referred to the patient's private medical provider off-site. Both Civil Servants and Contractor employees have a choice as to who their treating physician will be for an occupational illness or injury, i.e. the employee is encouraged, but not required, to go to the AFRC Health Unit for their illness or injury. Contractors may have their own "preferred providers" for injured or ill employees, separate from the AFRC Health Unit. More detailed procedures for addressing workplace (occupational) injuries and illnesses, and communicating such information to the employer (i.e. the Supervisor) are provided in specific NASA and AFRC guidance.

3.1.8 Non-Occupational Injuries & Illnesses: The NASA Occupational Health Program dictates that Health Unit staff will not act as the employee's personal medical doctor (PMD) or primary care provider. The AFRC Health Unit generally does not address, treat, or dispense medications for non-occupational illnesses and injuries. When in the best interests of NASA (e.g. to avoid the lost time spent getting a prescription from their private doctor), the Health Unit may address and treat—on a one-time basis—non-occupational illnesses and injuries of AFRC Civil Servants, e.g. respiratory infections, gastroenteritis or non-work related injuries. All follow-up or ongoing care must be provided by the employee's PMD. Contractor employees must see their PMD for all non-occupational medical needs, unless it is an urgent or emergent condition (e.g. heart attack, stroke, etc.).

3.1.9 Medical Emergency Response: Although the AFRC Health Unit does not operate a formal ambulance service, Health Unit staff shall respond to medical emergencies during regular duty hours that occur at AFRC main campus or Building 703. On main campus, the staff shall use the Medical Emergency Response Vehicle (MERV); at Building 703 staff shall respond by foot, as there is no MERV located at the Palmdale facility. The scene may be an industrial area such as an aircraft hangar, or elsewhere within a building. The Health Unit staff shall **NOT** proceed into an area or structure unless it is safe. The determination of an area's safety, when not obvious, will be made by the On-Scene Commander (e.g. Fire Chief, Safety, Health and Environmental Officer, Protective Services, etc.). Contractor personnel shall **NOT** drive the AFRC MERV off the confines of Edwards Air Force Base.

3.2 INDUSTRIAL HYGIENE (IH)

3.2.1 Size: The AFRC main campus occupies approximately 880 acres, and consists of buildings with approximately 900,000 square feet of structural floor space. Building 703, in Palmdale, occupies approximately 16 acres and consists of one building with approximately 428,000 square feet of structural floor space. Overall, AFRC structures include aircraft hangars, industrial shops, fuel stations, a motor pool, science laboratories, and office space. Due to the research nature of the AFRC mission, hazardous activities are conducted that necessitate the operation of air, waste-water, and noise-emitting equipment; petroleum-consuming equipment; ionizing and non-ionizing radiation-emitting equipment; as well as processes that generate hazardous wastes. In addition, there are ongoing programs involving the occasional abatement of asbestos and lead paint, requiring occasional sampling by IH staff. There are approximately twenty-five (25) identified industrial worksites at AFRC, divided into approximately fifty (50) functional work areas.

3.2.2 Document Reviews, Permits and Incident Response: Various work processes have need for Industrial Hygiene review, and in some cases, formal permitting. Aeronautical and airborne science projects will often utilize regulated chemicals, or have operations that involve potential exposures to workplace health hazards. Sometimes these operations require the issuance of a formal permit (e.g. Class IIIb or higher laser use); sometimes they require only a signed document review. Changes to the infrastructure, facilities or work processes can potentially expose workers to health hazards not previously identified or mitigated (e.g. new chemicals, unforeseen ergonomic challenges, etc.) and these will require IH evaluation. There are also isolated incidents (e.g. foul smell in the work area, unusual taste to the drinking water, etc.) that occasionally require prompt IH evaluation and recommendations.

3.2.3 Exposure Assessments: Exposure assessments are a proactive method by which the IH staff evaluate a functional work area with regard to the hazards and programs identified in Section 2.2. In this on-going process the presence or absence of the specific hazard for a given work area is documented, and if present, its potential for workplace exposure to workers is assessed in a quantifiable manner. Workers potentially exposed to the hazard(s) are identified, and mitigation steps are identified. These steps may include required training, medical examination, engineering or administrative controls, and/or the use of personal protective equipment (PPE).

3.2.4 Sampling and Surveillance: Surveillance of a work area, using the appropriately calibrated instruments, is one method of quantifying potential workplace exposure; sampling of specific substances, with subsequent shipping to an appropriate laboratory for processing and analysis, is another method. The various equipment and instruments used for surveying and sampling must be maintained on a regular basis, and calibrated to established standards. IH staff shall maintain such equipment and instruments, and keep these items calibrated per NASA requirements. NASA will provide the actual equipment or instruments, as well as perform the calibration. NASA will provide any additional costs of maintenance beyond normal inspection and care of the equipment or instrument.

3.2.5 Reports: Reports or other methods of documentation are accomplished in order to make recommendations or to detail requirements for mitigation and control of the potential hazard(s). IH personnel shall provide the appropriate information, requirements and recommendations to the responsible NASA-AFRC Management, thus facilitating informed decisions that minimize health risk of center personnel.

3.2.6 Education and Training: The AFRC workplace safety and health program requires specific training to be accomplished by the worker. Some training can be accomplished online through the NASA-provided online learning system. However, some training must be accomplished in-person (e.g. respirator use and fit-testing). IH staff shall provide required training, as defined within their areas of responsibility, in accordance with nationally recognized standards.

4.0 Requirements

4.1 Occupational Medicine (OM), the Contractor shall:

4.1.1 Staff and operate the AFRC Health Unit with a minimum of a Licensed Medical Professional (LMP), i.e. a Registered Nurse, a Nurse Practitioner and/or a Physician, in accordance with the operational hours and work schedule for AFRC, provided under the Section entitled, "Standard Work Hours" . The primary reason for these staffing hours is to provide initial medical response to emergencies.

4.1.2 Staff and operate the Building 703 Medical Office with a Clinician and a Registered Nurse, in accordance with the operational hours and work schedule for AFRC, Building 703, provided under the Section entitled, "Standard Work Hours". The Building 703 Medical Office shall be staffed to ensure physical examinations are completed with three (3) business days of request.

4.1.3 Perform work-related medical examinations in accordance with NPR 1800.1 and other applicable regulatory agencies. The Contractor shall provide staff who possess the knowledge, skills and abilities to perform medical examinations, to include:

4.1.3.1 Vital Signs (i.e. height and weight measurement, blood pressure measurement using an automated sphygmomanometer, oral temperature using an automated oral probe, respiratory rate and heart rate);

4.1.3.2 Pure-Tone Audiometry;

4.1.3.3 12-lead Electrocardiography (EKG);

4.1.3.4 Phlebotomy;

4.1.3.5 Intravenous (IV) Line Insertion and Maintenance;

4.1.3.6 Spirometry (Pulmonary Function Testing);

4.1.3.7 Vision Testing (Using a standard Optec® or Titmus® Vision Testing Machine provided by NASA);

4.1.3.8 Urine Dipstick Analysis; as well as:

4.1.3.9 FMCSA Medical Certification;

4.1.3.10 FAA Aviation Medical Certification, to include First-Class, Second-Class and Third-Class Medical Certifications.

4.1.4 Review appropriate tests and laboratory results required by such exams (e.g. hearing tests, pulmonary function tests, laboratory tests, etc.), and direct appropriate follow-up as indicated.

4.1.5 Assess, treat and manage workplace illnesses and injuries within the purview of the Health Unit (i.e. there is no "STAT" lab capability, no CT scan capability, and no inpatient capability on-site).

4.1.6 Assess and treat (within the Clinician's scope of practice and within the purview of the Health Unit) urgent or emergent conditions, such as acute coronary syndrome, acute myocardial infarction, or cerebrovascular accident (stroke) on an initial (i.e. urgent or emergence) basis. The staff shall then arrange urgent/emergent transport of the patient to higher levels of care via ambulance.

4.1.7 Shall respond immediately to 911 emergency calls in accordance with DCP-S-054 Emergency Preparedness and Response Plan. The response shall specifically include:

4.1.7.1 The cessation of all current activities (assuming they are not themselves life-saving activities);

4.1.7.2 Acquiring the necessary emergency information for response;

4.1.7.3 Loading the MERV with pre-determined bags and equipment (NASA will determine the medications and equipment in these bags);

4.1.7.4 Driving the MERV (and other staff) in an emergency manner (i.e. emergency lights and siren, if indicated—with due regard for safety) to the scene of the emergency;

4.1.7.5 Stabilizing the patient(s) to the extent possible in accordance with standard BLS and/or ACLS protocols;

4.1.7.6 Ensuring patients needing further care are transported to an off-site hospital using the paramedic ambulance service, i.e. the Edwards Air Force Base Paramedic Ambulance Service (AFRC main site), or the Los Angeles County Fire Department (Palmdale), as outlined in AFRC guidance.

4.1.8 Assess non-work-related illnesses of civil servants. The Clinician shall not prescribe or furnish medications unavailable in the Health Unit.

4.1.9 Medications will only be furnished from the AFRC Health Unit in accordance with Health Unit policies and protocols. Medications shall be furnished in dosages routinely prescribed, when indicated and appropriate for the patient. No prescriptions shall be written by the Contractor Clinician. Drug, strength and directions for use shall be documented in the electronic health record system, and patients shall be provided with the appropriate educational information regarding furnished drugs or devices. The medications available in the Health Unit will be determined by NASA. The Contractor shall be provided access to NASA Occupational Health Databases used in the performance of these requirements (e.g. Electronic Health Record System).

4.1.10 Ensure the Fitness Center is opened from 7:00 AM to 5:00 PM on regular work days, and 7:00 AM – 4:00 PM on the non-RDO Friday, in accordance with the AFRC Standard Work Hours. Health Unit staff shall monitor usage of the Fitness Center via closed-circuit television monitors located in the Health Unit. Health Unit staff shall ensure:

4.1.10.1 Users sign in on the appropriate sheets at the front of the Health Unit;

4.1.10.2 All participants hold a current medical clearance to use the Fitness Center facility; and

4.1.10.3 All participants have a “buddy”, i.e. a partner with whom they are exercising at the Fitness Center.

4.1.11 Provide a designed Automated External Defibrillator (AED) Coordinator to manage the AFRC AED Program in accordance with NPR 8100.1. Specifically, the AED Coordinator shall:

4.1.11.1 Document the location of each AED on site;

4.1.11.2 Ensure each AED is checked on a periodic basis (no less frequently than quarterly) to determine if it is in good working order;

4.1.11.3 Document the lot number and expiration date of the batteries, the pads and the replacement pads (when applicable) to each defibrillator;

4.1.11.4 Coordinate with the designated point-of-contact for each defibrillator and alert that individual within three months of an expiration date of either the batteries or the pads. The point-of-contact shall be notified if there is a recall by the manufacturer of either the batteries or the pads.

4.1.12 Arrange and participate in emergency response exercises (i.e. "Mock Codes"), on a quarterly basis at a minimum. These "Mock Codes" shall ensure the Health Unit staff is proficient at:

4.1.12.1 Identifying the location of an emergency (when outside the Health Unit);

4.1.12.2 Retrieving the required emergency response supplies;

4.1.12.3 Conducting Basic Life Support (BLS);

4.1.12.4 Calling for, and ensuring follow-on response, e.g. paramedic ambulance response service, is initiated; and

4.1.12.5 Conducting the initial steps of Advanced Cardiovascular Life Support (ACLS), such as applying oxygen, starting an intravenous line, placing a cardiac monitor, and recognizing "shockable" from "non-shockable" cardiac rhythms.

4.1.13 Participate in other exercises (e.g. aircraft mishap exercises, earthquake drills, etc.) when scheduled, or as directed by the COR. Health Unit staff shall participate in After-Action Reviews, or other such performance review mechanisms (e.g. monthly staff meetings) as required, or as directed by the COR.

4.1.14 Provide training required to AFRC personnel in Cardiopulmonary Resuscitation/First-Aid/Automated External Defibrillation, in accordance with the standards of the American Heart Association, at a frequency no less than monthly; this includes providing such training at least semiannually at Building 703 in Palmdale.

4.1.15 Participate in a structured Medical Quality Assurance and Peer Review program with the AFRC Chief Medical Officer, in which selected charts are reviewed for accuracy (i.e. "Chart Reviews") and overall quality of care (i.e. "Peer Review").

4.1.16 Provide a designated "Infection Control Officer" (ICO) to implement the AFRC Infection Control Plan.

4.1.17 Document all patient contacts in the NASA-provided electronic health record system (EHRS), and shall complete all required forms in accordance with standard practice and specific NASA guidance.

4.1.18 Attend meetings at the AFRC as required, or as directed by the COR.

4.1.19 Develop specific written standing orders and protocols for the Contractor Health Unit staff (to include the Nurse Practitioner and the Registered Nurses) to address, at a minimum, the three conditions listed below. These standing orders and protocols shall be written and signed by the Contractor's physician (i.e. Medical Director), and must receive the written concurrence of the AFRC Chief Medical Officer prior to implementation:

4.1.19.1 Chest Pain;

4.1.19.2 Anaphylactic Reaction;

4.1.19.3 Initial Steps of Emergency Response Beyond Basic Life Support (e.g. placing an intravenous line, administering oxygen, applying a cardiac monitor, etc.).

4.2 Industrial Hygiene, the Contractor shall:

4.2.1 Conduct IH surveillance, i.e. "exposure assessments" of facilities and projects using standard IH equipment/instruments and standard IH sampling/surveillance techniques. Surveillance shall be conducted within six (6) months of being scheduled. The Contractors shall accomplish one or more of the following tasks, as applicable:

4.2.1.1 Sample various media (i.e. air, soil and/or water) for analysis;

4.2.1.2 Perform noise surveys and dosimetry;

4.2.1.3 Perform ventilation surveys;

4.2.1.4 Perform illumination surveys;

4.2.1.5 Perform ionizing radiation surveys;

4.2.1.6 Perform non-ionizing radiation surveys;

4.2.1.7 Monitor and report heat stress conditions.

4.2.2 Conduct internal reviews (i.e. "self-assessments"), within twelve (12) months of being scheduled. The self-assessments shall include the following areas:

4.2.2.1 Asbestos

4.2.2.2 Confined Space

4.2.2.3 Hearing Conservation and Noise

4.2.2.4 Cryogens

4.2.2.5 Hexavalent Chromium

4.2.2.6 Lead

4.2.2.7 Hazard Communication

4.2.2.8 Non-Ionizing (Radiofrequency and Microwave) Radiation

4.2.2.9 Ionizing Radiation

4.2.2.10 Laser Safety

4.2.2.11 Respiratory Protection

4.2.2.12 Local Exhaust Ventilation

4.2.2.13 Blood-Borne Pathogens

4.2.2.14 Thermal Stress

4.2.2.15 Ergonomics

4.2.3 Perform routine field calibration, and ensure all instruments receive precision calibration in accordance with the manufacturer's recommended schedules.

4.2.4 Maintain all IH associated equipment logs and records.

4.2.5 Coordinate with NASA and outside vendors to provide health, and environmental analytical laboratory services for sampled items. These services will be at the Government's expense, and shall be coordinated through the COR.

4.2.6 Provide technical consultation services, including reviewing and commenting on various technical documents (e.g. Chemical Purchase Reviews) concerning proposed construction projects, aircraft research projects, or other projects, for compliance with applicable IH requirements. These reviews shall be accomplished within 10 business days of request.

4.2.7 Issue or deny permits, such as Laser Permits, Radiofrequency Permits or Microwave Permits within 10 business days of request.

4.2.8 Perform Respirator Fit-Testing.

4.2.9 Perform Ergonomic Evaluations.

4.2.10 Maintain compliance with the conditions of the limited Nuclear Regulatory Commission (NRC) license by performing inventories, leak testing, audits, shipping and receipt of radioactive materials. The Contractor shall coordinate the issuance, retrieval and reporting of radiation badges for monitored personnel. These services will be at the Government's expense, and shall be coordinated through the COR.

4.2.11 Implement the requirements of the NASA Laser Safety Program.

4.2.12 Provide Indoor Air Quality (IAQ) assessments and evaluate building occupant complaints when directed by the COR.

4.2.13 Upon direction by the COR, conduct or coordinate surveying or sampling of potential worksite health hazards. Routine requests shall be accomplished within thirty (30) days; urgent requests shall be accomplished within one (1) day.

4.2.14 Upon direction by the COR, conduct or coordinate sampling of building materials specifically for asbestos or lead-based paint.

4.2.14.1 Contractor shall ensure that all asbestos-related work is performed under the direction of a Certified Asbestos Consultant, as defined by the State of California.

4.2.14.2 Technicians performing asbestos-related work shall be certified as an Asbestos Site Surveillance Technician by the State of California.

4.2.14.3 Personnel performing lead-related work shall be certified by the California Department of Health Services as a Lead Inspector/Assessor.

4.2.14.4 All personnel collecting lead samples shall be certified by the California Department of Health Services as a Lead Sampling Technician.

4.2.15 Support preparedness and response to significant industrial incidents and natural disasters. Support shall be limited to evaluating hazards in the field, assessing the risk of performing entry and rescue operations, recommending appropriate personal protective equipment, and reporting information through the incident command structure. IH personnel shall **NOT** perform Hazardous Materials (HAZMAT) response activities.

4.2.16 Provide education and training for programs including, but not limited to, the following:

4.2.16.1 Hearing Conservation (to include requirements of the NASA "Buy Quiet By Design" program as defined in NPR 1800.1;

4.2.16.2 Respiratory Protection;

4.2.16.3 Hazard Communication;

4.2.16.4 Confined Space Entry;

4.2.16.5 Blood-Borne Pathogens and Biohazards;

4.2.16.6 Lead, Asbestos and Mercury;

4.2.16.7 Regulated Carcinogens;

4.2.16.8 Ergonomics;

4.2.16.9 Hydrazine;

4.2.16.10 Cryogen Safety;

4.2.16.11 Laser Safety;

4.2.16.12 Radiation Safety;

4.2.16.13 Global Harmonization System.

4.2.17 Ensure implementation and documentation of NASA audits, to include an annual self-audit of affected areas, as well as a triennial audit conducted by the NASA Office of the Chief Health and Medical Officer (OCHMO).

4.2.18 Accomplish other non-program related IH tasks as required, such as reviewing aircraft payloads, hazardous material license review, and hazardous material control. In this capacity the Contractor shall provide technical expertise on general IH issues, and act as the subject matter expert for compliance with all applicable Federal, State and local laws, as well as NASA regulations and directives.

4.2.19 Attend meetings and participate in various committees, representing the AFRC Chief of IH, as directed by the COR. Specifically, such attendance shall at a minimum include the morning "Tag-Up" meeting conducted each business day at Building 703.

4.2.20 Maintain and monitor government records by entering data into NASA-provided databases (or other appropriate information technology system), and interpretation of information to ensure that all program tasks comply with applicable regulatory requirements. Such records include (but are not limited to) the following:

4.2.20.1 Compliance documentation;

4.2.20.2 Survey documentation;

4.2.20.3 Inspection Reports;

4.2.20.4 Performance Metrics;

4.2.20.5 Instrument and equipment maintenance and calibration records;

4.2.20.6 Permits;

4.2.21 The Contractor shall generate ad-hoc and custom database reports, within the general scope of duties outlined above, upon direction by the COR.

5.0 Deliverables

5.1 Other than the services and documentation produced as a result of the requirements of the Occupational Medicine and the Industrial Hygiene elements of this contract, the Contractor shall provide the data outlined on the Data Requirements List (DRL).

6.0 Installation-Accountable Government Property (IAGP)

6.1 Access to NASA-provided occupational health databases used in the performance of these requirements (e.g. electronic health record system);

6.2 Training Information for NASA-required training modules (e.g. computer security

training, fire extinguisher training, counter-terrorism briefings, computer security training, and other;

6.3 Required Personal Protective Equipment (PPE);

6.4 Specific items, equipment and instruments listed in Attachment–04.

7.0 Travel

7.1 There is no specific travel (other than routine travel between the EAFB main site, Building 703 in Palmdale, and the AERO Institute in Palmdale) required by the Contractor. Attachment -06 lists examples of required certifications and licenses required by personnel on the contract. Many of these required certifications and licenses require specific face-to-face (i.e. "live") training or testing provided by the issuing authority, and as a result, require travel on the part of the trainee. The costs of the required training, and any associated travel, shall be provided by the Contractor.

8.0 Other Unique Requirements and Considerations

8.1 The Contractor Site Manager (SM) shall provide overall technical and administrative management for the Contractor's on-site staff, and shall be responsible for the Contractor's overall performance. This includes such items as resolving conflicts involving daily activities, and the planning of future operations. The SM shall ensure timely and effective communication with the CO/COR. The CO and COR shall be notified, in writing, in advance, whenever SM responsibilities are changed or delegated.

8.2 Professional Liability (Malpractice) Insurance: Evidence of current malpractice insurance coverage for the Occupational Medicine staff (e.g. Physician, Nurse Practitioner, Registered Nurse, or other employees) shall be provided to the Government. The specific arrangement of such coverage is a matter solely between the Contractor and its employee; NASA is **NOT** responsible for the medical malpractice insurance coverage of the Contractor's employees.

8.3 Credentials Verification: The Contractor shall verify the presence and validity of required credentials, certifications and licenses of all Contractor staff. Specifically, prior to the performance of this contract, primary source verification of credentials is required for the Physician (Medical Director) and the Physician Extender. A copy of these records shall be provided to NASA.

8.4 Employee Orientation: Due to the unique nature of the AFRC layout and location, all Contractor staff shall receive an orientation during the first three days of reporting to duty. This orientation will include: review of applicable operating procedures and guidance; familiarity with equipment and instruments; obtain appropriate identification badges for entry onto the facility; a tour of the AFRC facilities for

familiarization of all locations the procedures for protection and response in the event of disasters, and a tour of the response routes.

8.5 Medical Qualification of Staff:

8.5.1 The Contractor staff must be medically qualified to perform their respective roles without undue risk to themselves or others. Specifically, all Contractor personnel (Occupational Medical or Industrial Hygiene or) must have the physical ability to stand or walk for the majority of a nine (9) hour work day, with occasional bending, stooping, squatting, twisting, and reaching. Staff must have the physical ability to occasionally work on irregular surfaces, occasionally lift objects weighing over 25 pounds, with frequent lifting of objects weighing 10-25 pounds.

8.5.2 All Occupation Medicine and Health Unit staff designated to operate the MERV is required to undergo an Equipment Operator physical examination prior to placement and periodically thereafter. The Health Unit staff shall be tested for Hepatitis B immunity status, and will be offered the series of Hepatitis B immunization, if serology tests are negative for prior exposure. An annual test for tuberculosis exposure (i.e. a TB skin test) shall be performed, and any positive reaction or change in status will be brought to the attention of the Contractor's Medical Director, who shall determine disposition. All Health Unit staff shall be offered the Influenza Immunization (i.e. the "flu shot") annually; however, acceptance of the flu shot is not mandatory, nor a condition of employment. All Health Unit staff shall be required to have current certification (i.e. medical clearance, training and fit-testing) in the use of an N-95 half-face respirator.

9.0 Standard Work Hours

9.1 Standard Work Schedule: The AFRC (main campus) standard work schedule is in accordance with the "9/80" schedule, as shown in the Table below:

Table 1: AFRC Main Campus

Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	RDO
Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 4:00 PM

** Regular Day Off (RDO)

Table 2: AFRC Building 703

Monday	**Tuesday**	**Tuesday**	**Thursday**
7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 5:00 PM
Monday	**Tuesday**	**Tuesday**	**Thursday**
7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 5:00 PM	7:00 AM – 5:00 PM

9.2 The work shift includes a 30 minute (unencumbered) lunch break and two 15 minute breaks.

9.3 All work will normally be accomplished during a standard work shift; however, occasional situations may require the Contractor to perform tasks at times other than the standard work hours, such as second or third shift, or during a non-standard work week. The Contractor shall adjust work shifts or working hours to meet mission requirements without incurring additional funding (e.g. overtime charges). Work shifts outside the standard work hours shall be communicated in advance to, and coordinated with, the COR.

10.0 Period of Performance

10.1 The period of performance will consist of a one (1) year base period and four (4) one-year option periods for a total of five (5) years from the commencement of the contract.

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

DEPARTMENT OF LABOR WAGE DETERMINATION NUMBER 2005-2043, REV. NO. 18 KERN COUNTY

March 30, 2015

>

WD 05-2043 (Rev.-18) was first posted on www.wdol.gov on 12/30/2014
****

REGISTER OF WAGE DETERMINATIONS UNDER THE SERVICE CONTRACT ACT By direction of the Secretary of Labor	U.S. DEPARTMENT OF LABOR EMPLOYMENT STANDARDS ADMINISTRATION WAGE AND HOUR DIVISION WASHINGTON D.C. 20210
Diane C. Koplewski Division of Director Wage Determinations	Wage Determination No.: 2005-2043 Revision No.: 18 Date Of Revision: 12/22/2014

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of $10.10 for 2015 that applies to all contracts subject to the Service Contract Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

State: California

Area: California County of Kern

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		14.60
01012 - Accounting Clerk II		16.38
01013 - Accounting Clerk III		18.50
01020 - Administrative Assistant		21.14
01040 - Court Reporter		24.94
01051 - Data Entry Operator I		12.78
01052 - Data Entry Operator II		14.48
01060 - Dispatcher, Motor Vehicle		17.44
01070 - Document Preparation Clerk		14.35
01090 - Duplicating Machine Operator		14.35
01111 - General Clerk I		13.04
01112 - General Clerk II		14.83
01113 - General Clerk III		16.65
01120 - Housing Referral Assistant		20.00
01141 - Messenger Courier		11.54
01191 - Order Clerk I		13.24
01192 - Order Clerk II		14.45
01261 - Personnel Assistant (Employment) I		14.90
01262 - Personnel Assistant (Employment) II		17.56
01263 - Personnel Assistant (Employment) III		18.77
01270 - Production Control Clerk		23.14
01280 - Receptionist		11.49
01290 - Rental Clerk		12.72
01300 - Scheduler, Maintenance		16.03
01311 - Secretary I		16.03
01312 - Secretary II		17.93
01313 - Secretary III		20.00
01320 - Service Order Dispatcher		16.53
01410 - Supply Technician		22.22

01420 - Survey Worker	16.34
01531 - Travel Clerk I	12.88
01532 - Travel Clerk II	13.57
01533 - Travel Clerk III	14.67
01611 - Word Processor I	14.72
01612 - Word Processor II	16.51
01613 - Word Processor III	18.47
05000 - Automotive Service Occupations	
05005 - Automobile Body Repairer, Fiberglass	18.07
05010 - Automotive Electrician	18.24
05040 - Automotive Glass Installer	17.52
05070 - Automotive Worker	17.52
05110 - Mobile Equipment Servicer	15.83
05130 - Motor Equipment Metal Mechanic	18.99
05160 - Motor Equipment Metal Worker	17.52
05190 - Motor Vehicle Mechanic	18.99
05220 - Motor Vehicle Mechanic Helper	14.66
05250 - Motor Vehicle Upholstery Worker	17.00
05280 - Motor Vehicle Wrecker	17.52
05310 - Painter, Automotive	18.23
05340 - Radiator Repair Specialist	17.52
05370 - Tire Repairer	13.87
05400 - Transmission Repair Specialist	18.99
07000 - Food Preparation And Service Occupations	
07010 - Baker	14.06
07041 - Cook I	13.37
07042 - Cook II	15.20
07070 - Dishwasher	9.15
07130 - Food Service Worker	9.32
07210 - Meat Cutter	14.15
07260 - Waiter/Waitress	9.16
09000 - Furniture Maintenance And Repair Occupations	
09010 - Electrostatic Spray Painter	16.54
09040 - Furniture Handler	12.87
09080 - Furniture Refinisher	16.54
09090 - Furniture Refinisher Helper	13.30
09110 - Furniture Repairer, Minor	15.21
09130 - Upholsterer	16.54
11000 - General Services And Support Occupations	
11030 - Cleaner, Vehicles	11.66
11060 - Elevator Operator	11.66
11090 - Gardener	13.56
11122 - Housekeeping Aide	12.40
11150 - Janitor	12.40
11210 - Laborer, Grounds Maintenance	13.00
11240 - Maid or Houseman	8.98
11260 - Pruner	11.87
11270 - Tractor Operator	15.42
11330 - Trail Maintenance Worker	13.00
11360 - Window Cleaner	13.12
12000 - Health Occupations	
12010 - Ambulance Driver	18.87
12011 - Breath Alcohol Technician	18.48
12012 - Certified Occupational Therapist Assistant	25.35
12015 - Certified Physical Therapist Assistant	25.67
12020 - Dental Assistant	16.35
12025 - Dental Hygienist	41.60
12030 - EKG Technician	26.51
12035 - Electroneurodiagnostic Technologist	26.51
12040 - Emergency Medical Technician	18.87
12071 - Licensed Practical Nurse I	16.52
12072 - Licensed Practical Nurse II	18.48

12073 - Licensed Practical Nurse III		20.61
12100 - Medical Assistant		14.04
12130 - Medical Laboratory Technician		15.51
12160 - Medical Record Clerk		13.50
12190 - Medical Record Technician		15.10
12195 - Medical Transcriptionist		17.27
12210 - Nuclear Medicine Technologist		40.62
12221 - Nursing Assistant I		10.26
12222 - Nursing Assistant II		11.54
12223 - Nursing Assistant III		12.58
12224 - Nursing Assistant IV		14.12
12235 - Optical Dispenser		14.73
12236 - Optical Technician		16.52
12250 - Pharmacy Technician		16.87
12280 - Phlebotomist		16.50
12305 - Radiologic Technologist		26.48
12311 - Registered Nurse I		24.30
12312 - Registered Nurse II		29.72
12313 - Registered Nurse II, Specialist		29.72
12314 - Registered Nurse III		35.96
12315 - Registered Nurse III, Anesthetist		35.96
12316 - Registered Nurse IV		43.10
12317 - Scheduler (Drug and Alcohol Testing)		22.89
13000 - Information And Arts Occupations		
13011 - Exhibits Specialist I		20.13
13012 - Exhibits Specialist II		24.95
13013 - Exhibits Specialist III		30.52
13041 - Illustrator I		20.13
13042 - Illustrator II		24.95
13043 - Illustrator III		30.52
13047 - Librarian		27.62
13050 - Library Aide/Clerk		15.10
13054 - Library Information Technology Systems Administrator		24.95
13058 - Library Technician		19.47
13061 - Media Specialist I		18.00
13062 - Media Specialist II		20.13
13063 - Media Specialist III		22.45
13071 - Photographer I		18.00
13072 - Photographer II		20.14
13073 - Photographer III		24.95
13074 - Photographer IV		30.52
13075 - Photographer V		36.92
13110 - Video Teleconference Technician		18.00
14000 - Information Technology Occupations		
14041 - Computer Operator I		17.85
14042 - Computer Operator II		20.61
14043 - Computer Operator III		22.98
14044 - Computer Operator IV		25.55
14045 - Computer Operator V		28.28
14071 - Computer Programmer I		
14072 - Computer Programmer II	(see 1)	
14073 - Computer Programmer III	(see 1)	
14074 - Computer Programmer IV	(see 1)	
14101 - Computer Systems Analyst I	(see 1)	
14102 - Computer Systems Analyst II	(see 1)	
14103 - Computer Systems Analyst III	(see 1)	
14150 - Peripheral Equipment Operator		17.85
14160 - Personal Computer Support Technician		25.55
15000 - Instructional Occupations		
15010 - Aircrew Training Devices Instructor (Non-Rated)		30.78
15020 - Aircrew Training Devices Instructor (Rated)		37.24

15030 - Air Crew Training Devices Instructor (Pilot)	44.48
15050 - Computer Based Training Specialist / Instructor	28.99
15060 - Educational Technologist	27.08
15070 - Flight Instructor (Pilot)	44.48
15080 - Graphic Artist	20.98
15090 - Technical Instructor	19.96
15095 - Technical Instructor/Course Developer	24.27
15110 - Test Proctor	17.86
15120 - Tutor	17.86
16000 - Laundry, Dry-Cleaning, Pressing And Related Occupations	
16010 - Assembler	9.62
16030 - Counter Attendant	9.62
16040 - Dry Cleaner	11.95
16070 - Finisher, Flatwork, Machine	9.62
16090 - Presser, Hand	9.62
16110 - Presser, Machine, Drycleaning	9.62
16130 - Presser, Machine, Shirts	9.62
16160 - Presser, Machine, Wearing Apparel, Laundry	9.62
16190 - Sewing Machine Operator	12.25
16220 - Tailor	12.91
16250 - Washer, Machine	10.28
19000 - Machine Tool Operation And Repair Occupations	
19010 - Machine-Tool Operator (Tool Room)	23.66
19040 - Tool And Die Maker	28.13
21000 - Materials Handling And Packing Occupations	
21020 - Forklift Operator	13.04
21030 - Material Coordinator	23.14
21040 - Material Expediter	23.14
21050 - Material Handling Laborer	11.54
21071 - Order Filler	12.17
21080 - Production Line Worker (Food Processing)	13.04
21110 - Shipping Packer	13.93
21130 - Shipping/Receiving Clerk	13.93
21140 - Store Worker I	11.22
21150 - Stock Clerk	14.72
21210 - Tools And Parts Attendant	13.04
21410 - Warehouse Specialist	13.04
23000 - Mechanics And Maintenance And Repair Occupations	
23010 - Aerospace Structural Welder	28.23
23021 - Aircraft Mechanic I	26.79
23022 - Aircraft Mechanic II	28.23
23023 - Aircraft Mechanic III	29.66
23040 - Aircraft Mechanic Helper	21.12
23050 - Aircraft, Painter	22.31
23060 - Aircraft Servicer	24.18
23080 - Aircraft Worker	25.24
23110 - Appliance Mechanic	22.62
23120 - Bicycle Repairer	15.26
23125 - Cable Splicer	31.37
23130 - Carpenter, Maintenance	22.86
23140 - Carpet Layer	17.92
23160 - Electrician, Maintenance	26.52
23181 - Electronics Technician Maintenance I	26.31
23182 - Electronics Technician Maintenance II	27.90
23183 - Electronics Technician Maintenance III	29.47
23260 - Fabric Worker	20.33
23290 - Fire Alarm System Mechanic	23.03
23310 - Fire Extinguisher Repairer	19.01
23311 - Fuel Distribution System Mechanic	26.97
23312 - Fuel Distribution System Operator	22.23
23370 - General Maintenance Worker	18.26
23380 - Ground Support Equipment Mechanic	26.79

23381 - Ground Support Equipment Servicer	24.18
23382 - Ground Support Equipment Worker	25.24
23391 - Gunsmith I	19.01
23392 - Gunsmith II	21.62
23393 - Gunsmith III	24.22
23410 - Heating, Ventilation And Air-Conditioning Mechanic	21.88
23411 - Heating, Ventilation And Air Contditioning Mechanic (Research Facility)	23.06
23430 - Heavy Equipment Mechanic	21.73
23440 - Heavy Equipment Operator	24.53
23460 - Instrument Mechanic	28.25
23465 - Laboratory/Shelter Mechanic	22.93
23470 - Laborer	11.54
23510 - Locksmith	21.52
23530 - Machinery Maintenance Mechanic	22.52
23550 - Machinist, Maintenance	20.44
23580 - Maintenance Trades Helper	13.36
23591 - Metrology Technician I	28.25
23592 - Metrology Technician II	29.74
23593 - Metrology Technician III	31.26
23640 - Millwright	24.89
23710 - Office Appliance Repairer	21.82
23760 - Painter, Maintenance	20.87
23790 - Pipefitter, Maintenance	23.43
23810 - Plumber, Maintenance	22.50
23820 - Pneudraulic Systems Mechanic	24.22
23850 - Rigger	24.22
23870 - Scale Mechanic	21.71
23890 - Sheet-Metal Worker, Maintenance	22.68
23910 - Small Engine Mechanic	20.48
23931 - Telecommunications Mechanic I	24.61
23932 - Telecommunications Mechanic II	25.94
23950 - Telephone Lineman	22.97
23960 - Welder, Combination, Maintenance	23.78
23965 - Well Driller	24.22
23970 - Woodcraft Worker	24.22
23980 - Woodworker	19.01
24000 - Personal Needs Occupations	
24570 - Child Care Attendant	10.79
24580 - Child Care Center Clerk	11.17
24610 - Chore Aide	13.07
24620 - Family Readiness And Support Services Coordinator	13.80
24630 - Homemaker	17.39
25000 - Plant And System Operations Occupations	
25010 - Boiler Tender	29.17
25040 - Sewage Plant Operator	21.07
25070 - Stationary Engineer	29.17
25190 - Ventilation Equipment Tender	19.27
25210 - Water Treatment Plant Operator	21.07
27000 - Protective Service Occupations	
27004 - Alarm Monitor	17.33
27007 - Baggage Inspector	11.00
27008 - Corrections Officer	31.29
27010 - Court Security Officer	29.33
27030 - Detection Dog Handler	12.30
27040 - Detention Officer	31.29
27070 - Firefighter	29.06
27101 - Guard I	11.00
27102 - Guard II	12.30
27131 - Police Officer I	31.37

27132 - Police Officer II		34.86
28000 - Recreation Occupations		
28041 - Carnival Equipment Operator		14.01
28042 - Carnival Equipment Repairer		15.10
28043 - Carnival Equpment Worker		9.24
28210 - Gate Attendant/Gate Tender		13.62
28310 - Lifeguard		11.95
28350 - Park Attendant (Aide)		15.23
28510 - Recreation Aide/Health Facility Attendant		11.10
28515 - Recreation Specialist		16.40
28630 - Sports Official		12.14
28690 - Swimming Pool Operator		18.62
29000 - Stevedoring/Longshoremen Occupational Services		
29010 - Blocker And Bracer		25.75
29020 - Hatch Tender		25.75
29030 - Line Handler		25.75
29041 - Stevedore I		21.85
29042 - Stevedore II		27.31
30000 - Technical Occupations		
30010 - Air Traffic Control Specialist, Center (HFO)	(see 2)	35.78
30011 - Air Traffic Control Specialist, Station (HFO)	(see 2)	24.67
30012 - Air Traffic Control Specialist, Terminal (HFO)	(see 2)	27.16
30021 - Archeological Technician I		19.91
30022 - Archeological Technician II		23.13
30023 - Archeological Technician III		27.27
30030 - Cartographic Technician		30.50
30040 - Civil Engineering Technician		28.72
30061 - Drafter/CAD Operator I		19.91
30062 - Drafter/CAD Operator II		26.44
30063 - Drafter/CAD Operator III		26.80
30064 - Drafter/CAD Operator IV		32.98
30081 - Engineering Technician I		17.68
30082 - Engineering Technician II		20.62
30083 - Engineering Technician III		23.07
30084 - Engineering Technician IV		28.59
30085 - Engineering Technician V		34.97
30086 - Engineering Technician VI		42.20
30090 - Environmental Technician		24.34
30210 - Laboratory Technician		24.11
30240 - Mathematical Technician		27.58
30361 - Paralegal/Legal Assistant I		20.79
30362 - Paralegal/Legal Assistant II		25.77
30363 - Paralegal/Legal Assistant III		31.52
30364 - Paralegal/Legal Assistant IV		38.14
30390 - Photo-Optics Technician		27.58
30461 - Technical Writer I		29.04
30462 - Technical Writer II		35.52
30463 - Technical Writer III		42.97
30491 - Unexploded Ordnance (UXO) Technician I		22.74
30492 - Unexploded Ordnance (UXO) Technician II		27.51
30493 - Unexploded Ordnance (UXO) Technician III		32.97
30494 - Unexploded (UXO) Safety Escort		22.74
30495 - Unexploded (UXO) Sweep Personnel		22.74
30620 - Weather Observer, Combined Upper Air Or Surface Programs	(see 3)	26.80
30621 - Weather Observer, Senior	(see 3)	27.27
31000 - Transportation/Mobile Equipment Operation Occupations		
31020 - Bus Aide		11.36
31030 - Bus Driver		16.67
31043 - Driver Courier		13.85
31260 - Parking and Lot Attendant		10.80
31290 - Shuttle Bus Driver		14.87

31310 - Taxi Driver	10.82
31361 - Truckdriver, Light	14.87
31362 - Truckdriver, Medium	17.64
31363 - Truckdriver, Heavy	18.76
31364 - Truckdriver, Tractor-Trailer	18.76
99000 - Miscellaneous Occupations	
99030 - Cashier	10.75
99050 - Desk Clerk	8.95
99095 - Embalmer	23.59
99251 - Laboratory Animal Caretaker I	9.26
99252 - Laboratory Animal Caretaker II	9.94
99310 - Mortician	23.59
99410 - Pest Controller	13.90
99510 - Photofinishing Worker	11.95
99710 - Recycling Laborer	19.26
99711 - Recycling Specialist	22.54
99730 - Refuse Collector	17.57
99810 - Sales Clerk	11.95
99820 - School Crossing Guard	10.81
99830 - Survey Party Chief	28.28
99831 - Surveying Aide	18.77
99832 - Surveying Technician	25.72
99840 - Vending Machine Attendant	14.66
99841 - Vending Machine Repairer	18.36
99842 - Vending Machine Repairer Helper	15.79

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: $4.02 per hour or $160.80 per week or $696.79 per month

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year, New Year's Day, Martin Luther King Jr's Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4174)

THE OCCUPATIONS WHICH HAVE NUMBERED FOOTNOTES IN PARENTHESES RECEIVE THE FOLLOWING:

1) COMPUTER EMPLOYEES: Under the SCA at section 8(b), this wage determination does not apply to any employee who individually qualifies as a bona fide executive, administrative, or professional employee as defined in 29 C.F.R. Part 541. Because most Computer System Analysts and Computer Programmers who are compensated at a rate not less than $27.63 (or on a salary or fee basis at a rate not less than $455 per week) an hour would likely qualify as exempt computer professionals, (29 C.F.R. 541. 400) wage rates may not be listed on this wage determination for all occupations within those job families. In addition, because this wage determination may not list a wage rate for some or all occupations within those job families if the survey data indicates that the prevailing wage rate for the occupation equals or exceeds $27.63 per hour conformances may be necessary for certain nonexempt employees. For

example, if an individual employee is nonexempt but nevertheless performs duties within the scope of one of the Computer Systems Analyst or Computer Programmer occupations for which this wage determination does not specify an SCA wage rate, then the wage rate for that employee must be conformed in accordance with the conformance procedures described in the conformance note included on this wage determination.

Additionally, because job titles vary widely and change quickly in the computer industry, job titles are not determinative of the application of the computer professional exemption. Therefore, the exemption applies only to computer employees who satisfy the compensation requirements and whose primary duty consists of:

(1) The application of systems analysis techniques and procedures, including consulting with users, to determine hardware, software or system functional specifications;

(2) The design, development, documentation, analysis, creation, testing or modification of computer systems or programs, including prototypes, based on and related to user or system design specifications;

(3) The design, documentation, testing, creation or modification of computer programs related to machine operating systems; or

(4) A combination of the aforementioned duties, the performance of which requires the same level of skills. (29 C.F.R. 541.400).

2) APPLICABLE TO AIR TRAFFIC CONTROLLERS ONLY - NIGHT DIFFERENTIAL: An employee is entitled to pay for all work performed between the hours of 6:00 P.M. and 6:00 A.M. at the rate of basic pay plus a night pay differential amounting to 10 percent of the rate of basic pay.

3) AIR TRAFFIC CONTROLLERS AND WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordinance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordance, explosives, and pyrotechnic compositions such as lead azide, black powder and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordance, (or employees possibly adjacent to) explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for ordance, explosives, and incendiary material differential pay.

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or

local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of $3.35 per week (or $.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations", Fifth Edition, April 2006, unless otherwise indicated. Copies of the Directory are available on the Internet. A links to the Directory may be found on the WHD home page at http://www.dol.gov/esa/whd/ or through the Wage Determinations On-Line (WDOL) Web site at http://wdol.gov/.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form 1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)} When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

DEPARTMENT OF LABOR WAGE DETERMINATION NUMBER 2005-2047, REV. NO. 16 LOS ANGELES COUNTY

March 30, 2015

>

WD 05-2047 (Rev.-16) was first posted on www.wdol.gov on 12/30/2014
****

REGISTER OF WAGE DETERMINATIONS UNDER THE SERVICE CONTRACT ACT By direction of the Secretary of Labor	U.S. DEPARTMENT OF LABOR EMPLOYMENT STANDARDS ADMINISTRATION WAGE AND HOUR DIVISION WASHINGTON D.C. 20210
Diane C. Koplewski Division of Director Wage Determinations	Wage Determination No.: 2005-2047 Revision No.: 16 Date Of Revision: 12/22/2014

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of $10.10 for 2015 that applies to all contracts subject to the Service Contract Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least $10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

State: California

Area: California Counties of Los Angeles, Orange
OCCUPATION NOTES:

Heating, Air Conditioning and Refrigeration: Wage rates and fringe benefits can be found on Wage Determinations 1986-0879.

Laundry: Wage rates and fringe benefits can be found on Wage Determination 1977-1297.

Fringe Benefits Required Follow the Occupational Listing

OCCUPATION CODE - TITLE	FOOTNOTE	RATE
01000 - Administrative Support And Clerical Occupations		
01011 - Accounting Clerk I		15.83
01012 - Accounting Clerk II		17.77
01013 - Accounting Clerk III		20.27
01020 - Administrative Assistant		28.08
01040 - Court Reporter		19.93
01051 - Data Entry Operator I		12.26
01052 - Data Entry Operator II		13.37
01060 - Dispatcher, Motor Vehicle		22.41
01070 - Document Preparation Clerk		13.75
01090 - Duplicating Machine Operator		13.75
01111 - General Clerk I		11.76
01112 - General Clerk II		14.92
01113 - General Clerk III		17.43
01120 - Housing Referral Assistant		21.90
01141 - Messenger Courier		11.45
01191 - Order Clerk I		16.98
01192 - Order Clerk II		18.53
01261 - Personnel Assistant (Employment) I		18.07
01262 - Personnel Assistant (Employment) II		20.20
01263 - Personnel Assistant (Employment) III		22.53
01270 - Production Control Clerk		23.51

01280 - Receptionist	14.51
01290 - Rental Clerk	16.83
01300 - Scheduler, Maintenance	17.39
01311 - Secretary I	17.39
01312 - Secretary II	19.45
01313 - Secretary III	21.90
01320 - Service Order Dispatcher	19.54
01410 - Supply Technician	26.82
01420 - Survey Worker	19.93
01531 - Travel Clerk I	14.72
01532 - Travel Clerk II	16.02
01533 - Travel Clerk III	17.21
01611 - Word Processor I	15.18
01612 - Word Processor II	16.87
01613 - Word Processor III	18.76
05000 - Automotive Service Occupations	
05005 - Automobile Body Repairer, Fiberglass	23.56
05010 - Automotive Electrician	22.18
05040 - Automotive Glass Installer	20.84
05070 - Automotive Worker	20.84
05110 - Mobile Equipment Servicer	19.16
05130 - Motor Equipment Metal Mechanic	23.56
05160 - Motor Equipment Metal Worker	20.84
05190 - Motor Vehicle Mechanic	23.56
05220 - Motor Vehicle Mechanic Helper	18.38
05250 - Motor Vehicle Upholstery Worker	20.40
05280 - Motor Vehicle Wrecker	20.84
05310 - Painter, Automotive	22.18
05340 - Radiator Repair Specialist	20.84
05370 - Tire Repairer	15.47
05400 - Transmission Repair Specialist	23.56
07000 - Food Preparation And Service Occupations	
07010 - Baker	12.28
07041 - Cook I	12.91
07042 - Cook II	14.31
07070 - Dishwasher	10.29
07130 - Food Service Worker	11.20
07210 - Meat Cutter	15.92
07260 - Waiter/Waitress	9.85
09000 - Furniture Maintenance And Repair Occupations	
09010 - Electrostatic Spray Painter	20.45
09040 - Furniture Handler	13.66
09080 - Furniture Refinisher	20.45
09090 - Furniture Refinisher Helper	16.30
09110 - Furniture Repairer, Minor	18.74
09130 - Upholsterer	20.45
11000 - General Services And Support Occupations	
11030 - Cleaner, Vehicles	11.76
11060 - Elevator Operator	11.76
11090 - Gardener	19.21
11122 - Housekeeping Aide	12.58
11150 - Janitor	14.04
11210 - Laborer, Grounds Maintenance	14.40
11240 - Maid or Houseman	10.16
11260 - Pruner	13.27
11270 - Tractor Operator	17.13
11330 - Trail Maintenance Worker	14.40
11360 - Window Cleaner	15.77
12000 - Health Occupations	
12010 - Ambulance Driver	17.82
12011 - Breath Alcohol Technician	17.82
12012 - Certified Occupational Therapist Assistant	26.38

12015 - Certified Physical Therapist Assistant		26.70
12020 - Dental Assistant		17.27
12025 - Dental Hygienist		38.39
12030 - EKG Technician		28.14
12035 - Electroneurodiagnostic Technologist		28.14
12040 - Emergency Medical Technician		17.82
12071 - Licensed Practical Nurse I		18.43
12072 - Licensed Practical Nurse II		20.68
12073 - Licensed Practical Nurse III		23.72
12100 - Medical Assistant		14.82
12130 - Medical Laboratory Technician		19.73
12160 - Medical Record Clerk		16.07
12190 - Medical Record Technician		18.53
12195 - Medical Transcriptionist		19.35
12210 - Nuclear Medicine Technologist		36.54
12221 - Nursing Assistant I		10.19
12222 - Nursing Assistant II		11.46
12223 - Nursing Assistant III		12.50
12224 - Nursing Assistant IV		14.03
12235 - Optical Dispenser		17.00
12236 - Optical Technician		15.71
12250 - Pharmacy Technician		17.83
12280 - Phlebotomist		14.03
12305 - Radiologic Technologist		25.24
12311 - Registered Nurse I		31.47
12312 - Registered Nurse II		38.49
12313 - Registered Nurse II, Specialist		38.49
12314 - Registered Nurse III		48.20
12315 - Registered Nurse III, Anesthetist		48.20
12316 - Registered Nurse IV		57.77
12317 - Scheduler (Drug and Alcohol Testing)		25.09
13000 - Information And Arts Occupations		
13011 - Exhibits Specialist I		24.83
13012 - Exhibits Specialist II		30.76
13013 - Exhibits Specialist III		37.63
13041 - Illustrator I		27.84
13042 - Illustrator II		34.51
13043 - Illustrator III		42.16
13047 - Librarian		31.80
13050 - Library Aide/Clerk		16.49
13054 - Library Information Technology Systems Administrator		28.71
13058 - Library Technician		22.40
13061 - Media Specialist I		20.36
13062 - Media Specialist II		22.76
13063 - Media Specialist III		25.38
13071 - Photographer I		17.95
13072 - Photographer II		20.08
13073 - Photographer III		26.61
13074 - Photographer IV		33.56
13075 - Photographer V		40.61
13110 - Video Teleconference Technician		20.08
14000 - Information Technology Occupations		
14041 - Computer Operator I		17.82
14042 - Computer Operator II		19.93
14043 - Computer Operator III		22.89
14044 - Computer Operator IV		25.73
14045 - Computer Operator V		27.35
14071 - Computer Programmer I	(see 1)	27.42
14072 - Computer Programmer II	(see 1)	
14073 - Computer Programmer III	(see 1)	

14074 - Computer Programmer IV	(see 1)	
14101 - Computer Systems Analyst I	(see 1)	
14102 - Computer Systems Analyst II	(see 1)	
14103 - Computer Systems Analyst III	(see 1)	
14150 - Peripheral Equipment Operator		17.82
14160 - Personal Computer Support Technician		25.73
15000 - Instructional Occupations		
15010 - Aircrew Training Devices Instructor (Non-Rated)		34.73
15020 - Aircrew Training Devices Instructor (Rated)		42.03
15030 - Air Crew Training Devices Instructor (Pilot)		50.37
15050 - Computer Based Training Specialist / Instructor		34.73
15060 - Educational Technologist		36.09
15070 - Flight Instructor (Pilot)		50.37
15080 - Graphic Artist		26.72
15090 - Technical Instructor		25.70
15095 - Technical Instructor/Course Developer		31.47
15110 - Test Proctor		20.77
15120 - Tutor		20.77
19000 - Machine Tool Operation And Repair Occupations		
19010 - Machine-Tool Operator (Tool Room)		18.52
19040 - Tool And Die Maker		23.95
21000 - Materials Handling And Packing Occupations		
21020 - Forklift Operator		14.54
21030 - Material Coordinator		23.51
21040 - Material Expediter		23.51
21050 - Material Handling Laborer		13.02
21071 - Order Filler		13.31
21080 - Production Line Worker (Food Processing)		14.54
21110 - Shipping Packer		15.08
21130 - Shipping/Receiving Clerk		15.08
21140 - Store Worker I		11.53
21150 - Stock Clerk		17.13
21210 - Tools And Parts Attendant		14.54
21410 - Warehouse Specialist		14.54
23000 - Mechanics And Maintenance And Repair Occupations		
23010 - Aerospace Structural Welder		30.78
23021 - Aircraft Mechanic I		29.10
23022 - Aircraft Mechanic II		30.78
23023 - Aircraft Mechanic III		31.94
23040 - Aircraft Mechanic Helper		20.38
23050 - Aircraft, Painter		24.41
23060 - Aircraft Servicer		23.55
23080 - Aircraft Worker		24.58
23110 - Appliance Mechanic		20.11
23120 - Bicycle Repairer		15.47
23125 - Cable Splicer		32.84
23130 - Carpenter, Maintenance		27.67
23140 - Carpet Layer		21.12
23160 - Electrician, Maintenance		30.18
23181 - Electronics Technician Maintenance I		23.67
23182 - Electronics Technician Maintenance II		25.21
23183 - Electronics Technician Maintenance III		26.76
23260 - Fabric Worker		23.87
23290 - Fire Alarm System Mechanic		22.33
23310 - Fire Extinguisher Repairer		20.03
23311 - Fuel Distribution System Mechanic		25.94
23312 - Fuel Distribution System Operator		19.83
23370 - General Maintenance Worker		23.26
23380 - Ground Support Equipment Mechanic		29.10
23381 - Ground Support Equipment Servicer		23.55
23382 - Ground Support Equipment Worker		24.58
23391 - Gunsmith I		20.03

23392 - Gunsmith II	23.16
23393 - Gunsmith III	26.19
23430 - Heavy Equipment Mechanic	28.30
23440 - Heavy Equipment Operator	32.18
23460 - Instrument Mechanic	27.13
23465 - Laboratory/Shelter Mechanic	24.67
23470 - Laborer	12.49
23510 - Locksmith	20.69
23530 - Machinery Maintenance Mechanic	27.12
23550 - Machinist, Maintenance	25.41
23580 - Maintenance Trades Helper	14.82
23591 - Metrology Technician I	27.13
23592 - Metrology Technician II	28.74
23593 - Metrology Technician III	31.63
23640 - Millwright	25.45
23710 - Office Appliance Repairer	20.86
23760 - Painter, Maintenance	21.05
23790 - Pipefitter, Maintenance	25.74
23810 - Plumber, Maintenance	24.24
23820 - Pneudraulic Systems Mechanic	26.19
23850 - Rigger	26.81
23870 - Scale Mechanic	23.16
23890 - Sheet-Metal Worker, Maintenance	24.34
23910 - Small Engine Mechanic	18.70
23931 - Telecommunications Mechanic I	26.30
23932 - Telecommunications Mechanic II	27.86
23950 - Telephone Lineman	24.18
23960 - Welder, Combination, Maintenance	19.75
23965 - Well Driller	24.56
23970 - Woodcraft Worker	23.90
23980 - Woodworker	18.49
24000 - Personal Needs Occupations	
24570 - Child Care Attendant	13.05
24580 - Child Care Center Clerk	16.03
24610 - Chore Aide	10.57
24620 - Family Readiness And Support Services Coordinator	16.03
24630 - Homemaker	19.21
25000 - Plant And System Operations Occupations	
25010 - Boiler Tender	27.59
25040 - Sewage Plant Operator	28.83
25070 - Stationary Engineer	27.59
25190 - Ventilation Equipment Tender	19.34
25210 - Water Treatment Plant Operator	28.83
27000 - Protective Service Occupations	
27004 - Alarm Monitor	23.77
27007 - Baggage Inspector	13.15
27008 - Corrections Officer	31.01
27010 - Court Security Officer	31.00
27030 - Detection Dog Handler	23.77
27040 - Detention Officer	31.01
27070 - Firefighter	29.97
27101 - Guard I	13.15
27102 - Guard II	23.77
27131 - Police Officer I	36.78
27132 - Police Officer II	40.87
28000 - Recreation Occupations	
28041 - Carnival Equipment Operator	12.76
28042 - Carnival Equipment Repairer	13.74
28043 - Carnival Equpment Worker	9.67
28210 - Gate Attendant/Gate Tender	14.16
28310 - Lifeguard	13.48

28350 - Park Attendant (Aide)		15.83
28510 - Recreation Aide/Health Facility Attendant		11.56
28515 - Recreation Specialist		19.61
28630 - Sports Official		12.61
28690 - Swimming Pool Operator		16.97
29000 - Stevedoring/Longshoremen Occupational Services		
29010 - Blocker And Bracer		23.42
29020 - Hatch Tender		23.42
29030 - Line Handler		23.42
29041 - Stevedore I		21.88
29042 - Stevedore II		24.95
30000 - Technical Occupations		
30010 - Air Traffic Control Specialist, Center (HFO)	(see 2)	39.85
30011 - Air Traffic Control Specialist, Station (HFO)	(see 2)	27.98
30012 - Air Traffic Control Specialist, Terminal (HFO)	(see 2)	30.26
30021 - Archeological Technician I		22.52
30022 - Archeological Technician II		24.21
30023 - Archeological Technician III		34.46
30030 - Cartographic Technician		34.46
30040 - Civil Engineering Technician		30.78
30061 - Drafter/CAD Operator I		24.86
30062 - Drafter/CAD Operator II		27.81
30063 - Drafter/CAD Operator III		31.00
30064 - Drafter/CAD Operator IV		38.15
30081 - Engineering Technician I		19.68
30082 - Engineering Technician II		22.09
30083 - Engineering Technician III		24.70
30084 - Engineering Technician IV		30.60
30085 - Engineering Technician V		37.43
30086 - Engineering Technician VI		45.29
30090 - Environmental Technician		27.72
30210 - Laboratory Technician		23.13
30240 - Mathematical Technician		33.92
30361 - Paralegal/Legal Assistant I		21.83
30362 - Paralegal/Legal Assistant II		27.04
30363 - Paralegal/Legal Assistant III		33.08
30364 - Paralegal/Legal Assistant IV		40.03
30390 - Photo-Optics Technician		33.92
30461 - Technical Writer I		23.62
30462 - Technical Writer II		28.89
30463 - Technical Writer III		34.96
30491 - Unexploded Ordnance (UXO) Technician I		25.32
30492 - Unexploded Ordnance (UXO) Technician II		30.64
30493 - Unexploded Ordnance (UXO) Technician III		36.72
30494 - Unexploded (UXO) Safety Escort		25.32
30495 - Unexploded (UXO) Sweep Personnel		25.32
30620 - Weather Observer, Combined Upper Air Or Surface Programs	(see 2)	30.42
30621 - Weather Observer, Senior	(see 2)	33.79
31000 - Transportation/Mobile Equipment Operation Occupations		
31020 - Bus Aide		13.63
31030 - Bus Driver		19.62
31043 - Driver Courier		13.27
31260 - Parking and Lot Attendant		9.39
31290 - Shuttle Bus Driver		14.48
31310 - Taxi Driver		13.23
31361 - Truckdriver, Light		14.48
31362 - Truckdriver, Medium		20.63
31363 - Truckdriver, Heavy		21.78
31364 - Truckdriver, Tractor-Trailer		21.78
99000 - Miscellaneous Occupations		

99030 - Cashier	12.13
99050 - Desk Clerk	12.65
99095 - Embalmer	23.19
99251 - Laboratory Animal Caretaker I	11.02
99252 - Laboratory Animal Caretaker II	12.08
99310 - Mortician	34.35
99410 - Pest Controller	15.19
99510 - Photofinishing Worker	16.36
99710 - Recycling Laborer	21.03
99711 - Recycling Specialist	24.67
99730 - Refuse Collector	18.76
99810 - Sales Clerk	17.13
99820 - School Crossing Guard	9.51
99830 - Survey Party Chief	37.97
99831 - Surveying Aide	21.26
99832 - Surveying Technician	27.95
99840 - Vending Machine Attendant	12.77
99841 - Vending Machine Repairer	15.42
99842 - Vending Machine Repairer Helper	12.77

ALL OCCUPATIONS LISTED ABOVE RECEIVE THE FOLLOWING BENEFITS:

HEALTH & WELFARE: $4.02 per hour or $160.80 per week or $696.79 per month

VACATION: 2 weeks paid vacation after 1 year of service with a contractor or successor; 3 weeks after 5 years, and 4 weeks after 15 years. Length of service includes the whole span of continuous service with the present contractor or successor, wherever employed, and with the predecessor contractors in the performance of similar work at the same Federal facility. (Reg. 29 CFR 4.173)

HOLIDAYS: A minimum of ten paid holidays per year, New Year's Day, Martin Luther King Jr's Birthday, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans' Day, Thanksgiving Day, and Christmas Day. (A contractor may substitute for any of the named holidays another day off with pay in accordance with a plan communicated to the employees involved.) (See 29 CFR 4174)

THE OCCUPATIONS WHICH HAVE NUMBERED FOOTNOTES IN PARENTHESES RECEIVE THE FOLLOWING:

1) COMPUTER EMPLOYEES: Under the SCA at section 8(b), this wage determination does not apply to any employee who individually qualifies as a bona fide executive, administrative, or professional employee as defined in 29 C.F.R. Part 541. Because most Computer System Analysts and Computer Programmers who are compensated at a rate not less than $27.63 (or on a salary or fee basis at a rate not less than $455 per week) an hour would likely qualify as exempt computer professionals, (29 C.F.R. 541. 400) wage rates may not be listed on this wage determination for all occupations within those job families. In addition, because this wage determination may not list a wage rate for some or all occupations within those job families if the survey data indicates that the prevailing wage rate for the occupation equals or exceeds $27.63 per hour conformances may be necessary for certain nonexempt employees. For example, if an individual employee is nonexempt but nevertheless performs duties within the scope of one of the Computer Systems Analyst or Computer Programmer occupations for which this wage determination does not specify an SCA wage rate, then the wage rate for that employee must be conformed in accordance with the conformance procedures described in the conformance note included on this wage determination.

Additionally, because job titles vary widely and change quickly in the computer industry, job titles are not determinative of the application of the computer professional exemption. Therefore, the exemption applies only to computer employees who satisfy the compensation requirements and whose primary duty consists of:

(1) The application of systems analysis techniques and procedures, including consulting with users, to determine hardware, software or system functional specifications;

(2) The design, development, documentation, analysis, creation, testing or modification of computer systems or programs, including prototypes, based on and related to user or system design specifications;

(3) The design, documentation, testing, creation or modification of computer programs related to machine operating systems; or

(4) A combination of the aforementioned duties, the performance of which requires the same level of skills. (29 C.F.R. 541.400).

2) AIR TRAFFIC CONTROLLERS AND WEATHER OBSERVERS - NIGHT PAY & SUNDAY PAY: If you work at night as part of a regular tour of duty, you will earn a night differential and receive an additional 10% of basic pay for any hours worked between 6pm and 6am. If you are a full-time employed (40 hours a week) and Sunday is part of your regularly scheduled workweek, you are paid at your rate of basic pay plus a Sunday premium of 25% of your basic rate for each hour of Sunday work which is not overtime (i.e. occasional work on Sunday outside the normal tour of duty is considered overtime work).

HAZARDOUS PAY DIFFERENTIAL: An 8 percent differential is applicable to employees employed in a position that represents a high degree of hazard when working with or in close proximity to ordinance, explosives, and incendiary materials. This includes work such as screening, blending, dying, mixing, and pressing of sensitive ordance, explosives, and pyrotechnic compositions such as lead azide, black powder and photoflash powder. All dry-house activities involving propellants or explosives. Demilitarization, modification, renovation, demolition, and maintenance operations on sensitive ordnance, explosives and incendiary materials. All operations involving regrading and cleaning of artillery ranges.

A 4 percent differential is applicable to employees employed in a position that represents a low degree of hazard when working with, or in close proximity to ordance, (or employees possibly adjacent to) explosives and incendiary materials which involves potential injury such as laceration of hands, face, or arms of the employee engaged in the operation, irritation of the skin, minor burns and the like; minimal damage to immediate or adjacent work area or equipment being used. All operations involving, unloading, storage, and hauling of ordance, explosive, and incendiary ordnance material other than small arms ammunition. These differentials are only applicable to work that has been specifically designated by the agency for ordance, explosives, and incendiary material differential pay.

** UNIFORM ALLOWANCE **

If employees are required to wear uniforms in the performance of this contract (either by the terms of the Government contract, by the employer, by the state or local law, etc.), the cost of furnishing such uniforms and maintaining (by laundering or dry cleaning) such uniforms is an expense that may not be borne by an employee where such cost reduces the hourly rate below that required by the wage determination. The Department of Labor will accept payment in accordance with the following standards as compliance:

The contractor or subcontractor is required to furnish all employees with an adequate number of uniforms without cost or to reimburse employees for the actual cost of the uniforms. In addition, where uniform cleaning and maintenance is made the responsibility of the employee, all contractors and subcontractors subject to this wage determination shall (in the absence of a bona fide collective bargaining

agreement providing for a different amount, or the furnishing of contrary affirmative proof as to the actual cost), reimburse all employees for such cleaning and maintenance at a rate of $3.35 per week (or $.67 cents per day). However, in those instances where the uniforms furnished are made of "wash and wear" materials, may be routinely washed and dried with other personal garments, and do not require any special treatment such as dry cleaning, daily washing, or commercial laundering in order to meet the cleanliness or appearance standards set by the terms of the Government contract, by the contractor, by law, or by the nature of the work, there is no requirement that employees be reimbursed for uniform maintenance costs.

The duties of employees under job titles listed are those described in the "Service Contract Act Directory of Occupations", Fifth Edition, April 2006, unless otherwise indicated. Copies of the Directory are available on the Internet. A links to the Directory may be found on the WHD home page at http://www.dol.gov/esa/whd/ or through the Wage Determinations On-Line (WDOL) Web site at http://wdol.gov/.

REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND WAGE RATE {Standard Form 1444 (SF 1444)}

Conformance Process:

The contracting officer shall require that any class of service employee which is not listed herein and which is to be employed under the contract (i.e., the work to be performed is not performed by any classification listed in the wage determination), be classified by the contractor so as to provide a reasonable relationship (i.e., appropriate level of skill comparison) between such unlisted classifications and the classifications listed in the wage determination. Such conformed classes of employees shall be paid the monetary wages and furnished the fringe benefits as are determined. Such conforming process shall be initiated by the contractor prior to the performance of contract work by such unlisted class(es) of employees. The conformed classification, wage rate, and/or fringe benefits shall be retroactive to the commencement date of the contract. {See Section 4.6 (C)(vi)} When multiple wage determinations are included in a contract, a separate SF 1444 should be prepared for each wage determination to which a class(es) is to be conformed.

The process for preparing a conformance request is as follows:

1) When preparing the bid, the contractor identifies the need for a conformed occupation(s) and computes a proposed rate(s).

2) After contract award, the contractor prepares a written report listing in order proposed classification title(s), a Federal grade equivalency (FGE) for each proposed classification(s), job description(s), and rationale for proposed wage rate(s), including information regarding the agreement or disagreement of the authorized representative of the employees involved, or where there is no authorized representative, the employees themselves. This report should be submitted to the contracting officer no later than 30 days after such unlisted class(es) of employees performs any contract work.

3) The contracting officer reviews the proposed action and promptly submits a report of the action, together with the agency's recommendations and pertinent information including the position of the contractor and the employees, to the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, for review. (See section 4.6(b)(2) of Regulations 29 CFR Part 4).

4) Within 30 days of receipt, the Wage and Hour Division approves, modifies, or disapproves the action via transmittal to the agency contracting officer, or notifies the contracting officer that additional time will be required to process the request.

5) The contracting officer transmits the Wage and Hour decision to the contractor.

6) The contractor informs the affected employees.

Information required by the Regulations must be submitted on SF 1444 or bond paper.

When preparing a conformance request, the "Service Contract Act Directory of Occupations" (the Directory) should be used to compare job definitions to insure that duties requested are not performed by a classification already listed in the wage determination. Remember, it is not the job title, but the required tasks that determine whether a class is included in an established wage determination. Conformances may not be used to artificially split, combine, or subdivide classifications listed in the wage determination.

OCCUPATIONAL HEALTH SERVICES (OHS)

Solicitation No. NND15531905Q

INSTALLATION-ACCOUNTABLE GOVERNMENT PROPERTY

March 30, 2015

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

Attachment 04

NND15531905Q
Occupational Health Services
List of Installation-Accountable Government Property

Item Number	ECN	Item Name	Manufacturer	Model No	Serial No	FSC/NSN
1	1648961	RADIO, HAND HELD	MOTOROLA INC	H09RDH9PW7BN	326CDG0866	5820
2	1648962	RADIO, HAND HELD	MOTOROLA INC	H09RDH9PW7BN	326CDG0867	5820
3	1648963	RADIO, HAND HELD	MOTOROLA INC	H09RDH9PW7BN	326CDG0868	5820
4	1649151	MACHINE, EKG	PHILLIPS INDUSTRIAL PRODUCTS	M1700A	US00600894	5915
5	1655313	RADIO SET, MOBILE	MOTOROLA INC	T99DX148N	494AXL0940	5820
6	1655771	RADIO, HANDHELD	MOTOROLA	H18QCN9PW9AN	654CLB0034	5820
7	1810530	TYPEWRITER	LEXMARK INTERNATIONAL	1500	11RH907	7430
8	2097194	TESTER, VISION	HUMPHREY INC	ZEISS	2220548	6510
9	2097233	DEFIBRILLATOR	MEDTRONIC INC	LIFEPAK12	30359092	6515
10	2368921	RECEIVING SET, TELEVISION	LG ELECTRONICS USA INC	60LY340C.AUS	408RMUYK8022	5820
11	3005900	COMPUTER, LAPTOP i5	DELL COMPUTER CORP F-PC'S LTD	E5520	8ZG5YV1	7021
12	3006318	COMPUTER, DESKTOP INTEL i5	HEWLETT PACKARD	6200P	MXL21420VD	7021
13	3006319	COMPUTER, DESKTOP i5	HEWLETT PACKARD	6200P	MXL215066P	7021
14	3006668	COMPUTER, LAPTOP	DELL COMPUTER CORP F-PC'S LTD	E 5520	8ZM8YV1	7020
15	3032492	DISPLAY UNIT 24	DELL COMPUTER CORP F-PC'S LTD	2405FPW	CN0T61334663358N2RDS	7050
16	3032507	DISPLAY UNIT 24	DELL COMPUTER CORP F-PC'S LTD	2405FPW	CN0T61334663358N2PWS	7050
17	3033538	EXERCISER, TREADMILL	UNKNOWN	95T	TWT11784	7830
18	3033934	MONITOR, PATIENT VITAL SIGN	UNKNOWN	42NTB	200906813	6615
19	G420040G	Medical Emergency Response Vehicle (MERV)	Chevrolet	Suburban	52-101	N/A
20	1366718	RECORDER, PRESSURE	ABATIX ENVIRONMENTAL CORP	NONE	G302980	6685
21	1655280	METER, BROADBAND	NARDA MICROWAVE CP F-PENNISULA	NBM-550	B-0667	6665
22	2077613	ANALYZER, AMBIENT AIR	THERMO ENVIRONMENTAL INST INC	82030	205B71285369	6625
23	2096794	NOISE DOSIMETER	QUEST TECHNOLOGIES INC	Q400	Q10070107	5210
24	2096852	DETECTOR, MERCURY	ARIZONA INSTRUMENT CORP	431X	3010	6665
25	2191173	COUNTER, SAMPLE	THERMO EBERLINE	HANDECOUNT	630	6665
26	3005666	DETECTOR, LEAD	THERMO FISHER SCIENTIFIC	XLP300A	25949	6665
27	3032853	TESTER, PORTACCOUNT PLUS	TSI INC F-THERMO-SYSTEMS INC	8020	17445	6625

Attachment 04

NND15531905Q
Occupational Health Services
List of Installation-Accountable Government Property

Item Number	Year Manf'd	End User Name	Custodian Name	Custodian Account	User Comment	Building/Room	End User Accept Flag	Acquisition Cost	Unattached Tag	Local Data
1	2003	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / OFFIC	Accepted	$1,736	N	
2	2003	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / OFFIC	Accepted	$1,736	N	
3	2003	GREGG A BENDRICK	Carol A Orr	X		DR-703 / N234	Accepted	$1,736	N	
4	2002	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / MEDRM	Accepted	$9,235	N	
5	1997	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / SUV	Accepted	$1,577	N	
6	2010	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / 11	Accepted	$3,665	N	
7	1997	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / OFFIC	Accepted	$606	N	
8	2002	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / MEDRM	Accepted	$7,020	N	
9	2002	GREGG A BENDRICK	Carol A Orr	X		DR-703 / N234	Accepted	$7,045	N	
10	2014	GREGG A BENDRICK	Carol A Orr	X		DR-4877 / GYM	Accepted	$1,300	N	
11	2012	GREGG A BENDRICK	Carol A Orr	X		DR-4838 / 4822:2	Accepted	$1,100	N	2.6GHZ/4GBRAM/320GBHD/WINSYS
12	2012	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / MEDRM	Accepted	$803	N	2.0GBRAM/3.10GBGHZ/250GBHD/WIN7SYS
13	2012	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / 3	Accepted	$803	N	2.0GBRAM/3.10GHZ/250GBHD/WIN7SYS
14	2012	GREGG A BENDRICK	Carol A Orr	X	Tag	DR-4822 / 2	Accepted	$1,100	N	2.6GHZ/4GBRAM/320GBHD/INTEL CORE I5
15	2005	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / OFFIC	Accepted	$1,020	N	
16	2005	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / OFFIC	Accepted	$1,020	N	
17	2009	GREGG A BENDRICK	Carol A Orr	X		DR-4877 / GYM	Accepted	$4,699	N	
18	2009	GREGG A BENDRICK	Carol A Orr	X		DR-4822 / MEDRM	Accepted	$1,995	N	
19	2008	GREGG A BENDRICK	GSA	X		DR-4822/Parking	Accepted	LEASE	N	GSA Lease Gov't Vehicle
20	1995	Charles C Kreager	Carol A Orr	X		DR-4822 / 54	Accepted	$1,125	N	
21	2009	Charles C Kreager	Carol A Orr	X		DR-4822 / 54	Accepted	$5,750	N	
22	2001	Charles C Kreager	Carol A Orr	X		DR-4822 / 54	Accepted	$16,990	N	
23	2000	Charles C Kreager	Carol A Orr	X		DR-4822 / 54	Accepted	$7,827	N	
24	2000	Charles C Kreager	Carol A Orr	X		DR-4822 / 54	Accepted	$7,056	N	
25	2006	Charles C Kreager	Carol A Orr	X		DR-4822 / 54	Accepted	$3,965	N	Z CCAFS DISPENSARY
26	2011	Charles C Kreager	Carol A Orr	X		DR-4822 / 54	Accepted	$14,870	N	
27	1996	Charles C Kreager	Carol A Orr	X		DR-4822 / 54	Accepted	$7,000	N	Equipment retagged due to the old tag that came off.

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

DEFINITIONS AND ACRONYMS

March 30, 2015

DEFINITIONS AND ACRONYMS

ABIH	American Board of Industrial Hygiene
ACGIH	American Conference of Governmental Industrial Hygienists
ACLS	Advanced Cardiovascular Life Support (as promulgated by the American Heart Association)
AED	Automated External Defibrillator
AFRC	Armstrong Flight Research Center
AKA	Also Known As
AME	Aviation Medical Examiner
BLDG	Building
BLS	Basic Life Support (as promulgated by the American Heart Association)
CAC	Certified Asbestos Consultant
CAOCH	Council for Accreditation in Occupational Hearing Conservation
CIH	Certified Industrial Hygienist
CMO	Chief Medical Officer
CO	Contracting Officer
COHN	Certified Occupational Health Nurse
COR	Contracting Officer's Representative
CPARS	Contractor Performance Assessment Reporting System
CPR	Cardiopulmonary Resuscitation
CS	Contract Specialist
DCAA	Defense Contract Audit Agency
DCMA	Defense Contract Management Agency

DO	Doctor of Osteopathy
DRL	Data Requirements List
EAFB	Edwards Air Force Base
EAP	Employee Assistance Program
FAA	Federal Aviation Administration
FMCSA	Federal Motor Carrier Safety Administration
FOM	Facilities Operation Manager
GEM	Global Electric Motorcars
HAZMAT	Hazardous Materials
IAW	In Accordance With
ICO	Infection Control Officer
IAGP	Installation-Accountable Government Property
IH	Industrial Hygiene
IT	Information Technology
IPO	Industrial Property Officer
LMP	Licensed Medical Professional (i.e. Physician, Nurse Practitioner, Physician's Assistant, or Registered Nurse)
MERV	Medical Emergency Response Vehicle
NASA	National Aeronautics and Space Administration
NIOSH	National Institute of Occupational Safety and Health
NP	Nurse Practitioner
NPR	NASA Procedural Requirement
OCHMO	Office of the Chief Health and Medical Officer
OCI	Organizational Conflict of Interest

OHP	Occupational Health Program
OHS	Occupational Health Services
OM	Occupational Medicine
OSHA	Occupational Safety and Health Administration
PA	Physician Assistant
PI	Performance Improvement
PMD	Primary Medical Doctor
POC	Point Of Contact
PPE	Personal Protective Equipment
PPIRS	Past Performance Information Retrieval System
PWS	Performance Work Statement
QA	Quality Assurance
QCP	Quality Certification Program
QASP	Quality Assurance Surveillance Plan
RDO	Regular Day Off
RN	Registered Nurse
SAIF	Science Aircraft Integration Facility (Building 703)
SBU	Sensitive But Unclassified
SEMO	Supply and Equipment Management Officer
SHEMP	Safety Health and Environmental Management Plan
SM	Site Manager
SOW	Scope of Work
STS	Standard Threshold Shift

TB	Tuberculosis
TM	Task Monitor
WYE	Work Year Equivalent (i.e. a full-time equivalent contractor for one year's duration)

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

CREDENTIAL REQUIREMENTS

March 30, 2015

CREDENTIAL REQUIREMENTS

TRAINING/CERTIFICATE DESCRIPTION	FREQUENCY	APPLICABLE CONTRACT EMPLOYEES
Occupational Medicine		
Basic Life Support (Provider), certified by the American Heart Association)	2 Years	All Health Unit Staff
RN Nursing License (State of California)	1 Year	All Registered Nurses
Advanced Cardiovascular Life Support (Provider), certified by the American Heart Association	2 Years	All Registered Nurses
Certified by the CAOHC (Council for Accreditation in Occupational Hearing Conservation)	5 Years	All Registered Nurses
Completion of the NIOSH (National Institute of Occupational Safety and Health) Spirometry Course	5 Years	1
Certified and Registered as an FMCSA (Federal Motor Carrier Safety Administration) Medical Examiner	10 Years	1
MD (Doctor of Medicine) or DO (Doctor of Osteopathy) Medical License (State of California)	1 Year	1
FAA (Federal Aviation Administration)-Designated Senior Aviation Medical Examiner	3 Years	1
Industrial Hygiene		
Certified Asbestos Consultant (CAC), State of California	1 Year	1
Asbestos Site Surveillance Technician, State of California	1 Year	1
Lead Inspector/Assessor (California Department of Health)	1 Year	1
Lead Sampling Technician (California Department of Health)	2 Years	1

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

SAFETY, HEALTH AND ENVIRONMENTAL MANAGEMENT PLAN (SHEMP)

March 30, 2015

PLACEHOLDER FOR CONTRACTOR'S SAFETY, HEALTH AND ENVIRONMENTAL PLAN

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

DATA REQUIREMENTS LIST

March 30, 2015

DATA REQUIREMENTS LIST (DRL)

DRD Number	Data Type	DRD Title	DRD Due Date
OHS - M		**M - Management**	
M01	2	AED Check Sheet	Quarterly
M02	2	Competency Assessments	Annually
M03	2	Exposure Assessment Status Report	Monthly
M04	2	Health Unit Staffing Report	Monthly
M05	2	IH & OM Productivity Reports	Monthly
M06	1 and 2	IT Security Management Plan	30 Days After Contract Award (NASA Approval)
M07	2	Monthly Accident/Incident Reports	Monthly
M08	2	OHP Self-Audit Checklists	Annually
M09	1 and 2	Organizational Conflict of Interest Mitigation Plan	30 Days After Contract Award (NASA Approval)
M10	2	Staffing Plan & Key Personnel	Upon Contract Award
M11	1 and 2	Staff Licenses & Certifications	Submitted with Quote
M12	2	Standard Threshold Shift Report	Monthly
M13	2	Standing Orders and Protocols	30 Days After Contract Award
M14	1 and 2	Management Plan	Submitted with Quote
M15	2	Risk Management Plan	30 Days After Contract Award
M16	2	MERV Mileage Report	Monthly
OHS - Q		**Q - Quality**	
Q01	2	Emergency Response Quality Assurance Review Sheet	Per Occurrence
Q02	2	Quality Assurance / Performance Improvement Report	Quarterly
OHS - S		**S - Safety**	
S01	2	Office Safety Surveys (3 sites)	Monthly
S02	1 and 2	Safety, Health, and Environmental Management Plan	Submitted with Quote

Nothing contained in this DRL and DRD provision shall relieve the contractor from furnishing data not identified and described in the DRL and DRD attachment but called for by, or under the authority of, other provisions or as specified elsewhere in this contract. Except as otherwise provided in this contract, the cost of data to be furnished in response to the DRL attached to this contract or of data to be delivered under the authority of other sections (clauses/statement of work) are included in the price of this contract.

The contractor shall furnish data defined by the DRDs listed on the DRL by category of data. Such data shall be prepared, maintained, and delivered to NASA in accordance with the requirements set forth within this DRL. In cases where data requirements are covered by a

Federal Acquisition Regulation (FAR) or NASA FAR Supplement (NFS) regulation or clause, the regulation will take precedence over the DRL, per FAR 52.215.33.

NASA-Owned/Contractor-Held records shall be managed by the contractor in accordance with Title 36 of the Code of Federal Regulations, Chapter XII B, Records Management, and NPD 1440.6, NASA Records Management Program. The records shall be organized in accordance with the instructions in NPR 1441.1, NASA Records Retention Schedules, as applicable. The contractor shall disposition records and nonrecords in accordance with NPR 1441.1, which has been approved by NASA and the National Archives and Records Administration (NARA). All questions on records management issues shall be directed through the Contracting Officer to the AFRC Records Management Officer.

DESCRIPTION

The DRDs, along with the DRL, define, by an individual Data Requirement, the information and data required for each deliverable document.

The data types are used to identify the approval and control required for each DRD. The DRL is an index of all the DRDs and includes additional requirement for each DRD and the data types, as described below.

DATA TYPES

For the purpose of this clause, the following information/documentation types are applicable:

Type 1 Written Approval
Information and documentation, which requires NASA approval prior to release or implementation.

Type 2 Mandatory Submittal
Data submitted to NASA for coordination, information, review, and/or management control.

Type 3 Submittal Upon Request
Data prepared and retained by respondent to be made available to requiring organization upon request.

NUMBER OF COPIES AND DISTRIBUTION REQUIREMENTS

The contractor shall provide one copy of each DRD to the standard distribution list shown in the DRDs. Additional distribution shall be made as directed, in writing, by the Contracting Officer. The number of copies required will not exceed the limits set forth in NFS 1852.208-81, Restrictions on Printing and Duplicating, without prior Contracting Officer approval.

ELECTRONIC FORMAT

DRDs shall be maintained electronically in the contractor's own format, unless a specified format is defined in the DRD. Contractors shall use pertinent Microsoft Office programs for electronic submission unless otherwise stated in the DRD.

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

DATA REQUIREMENTS DESCRIPTIONS

March 30, 2015

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
AED Check Sheet	**10/22/2014**	**M01**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Establishes quarterly compliance for Contractors providing support to NASA AFRC	____ Technical _X_ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*
Performance Work Statement, paragraph 4.1.11	

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
AED check sheet shall be recorded each quarter.

b. Content:

The Automated External Defibrillator (AED) Coordinator shall report in writing every quarter the following information:

(1) Location of each AED on site
(2) Point of Contact (Name and Extension)
(3) AED Identification Number (i.e., serial number)
(4) Lock Number
(5) Battery Expiration Date
(6) Battery Insert Date
(7) Battery Lot Number
(8) Pads Expiration Date
(9) Pads Lot Number
(10) Spare Pads Expiration Date
(11) Spare Pads Lot Number
(12) Date AED last checked

c. Format:
NASA-provided spreadsheet

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency: Submission shall be Quarterly, by the 10th of that month (January, April, July and October)

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Competency Assessments for Nursing Personnel	**10/22/2014**	**M02**	**NND15531905Q/ NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Nursing skills performed at an adequate level need to be verified and documented annually	_____ Technical __X__ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:

Contractor shall complete the NASA-provided spreadsheet addressing nursing skills required in the Health Unit.

b. Content:

The Contractor shall assess and score performance in the following categories for all Nursing Personnel:

(1) IV Insertion and Maintenance
(2) Universal Precautions
(3) Pulse Oximeter Application
(4) Spirometry
(5) Medication Administration
(6) 911 Call Response
(7) Phlebotomy
(8) Cerumen Management
(9) Audiometry
(10) Vision Screening
(11) Morning Equipment Checks and Calibrations
(12) Physical Exams (Vital Sign Assessments)

*The scoring is outlined in the NASA-provided Spreadsheet.

c. Format:

NASA-provided template.

d. Distribution:

1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:

30 days after contract award; Submission shall be annually (by the 10th of July)

f. Maintenance:

Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Exposure Assessment Status Report	**10/22/2014**	**M03**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To proactively identify and mitigate health risks in the work environment, exposure assessment will be accomplished on a continual basis	____ Technical __X__ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
The Contractor will accomplish approximately 30 exposure assessments throughout NASA AFRC and Building 703 in the course of the year.

b.Content:
NASA-identified work sites are listed in the first column of a NASA-provided spreadsheet, and the various IH programs are listed sequentially along the top row of the spreadsheet. When the exposure assessment for a particular work site is accomplished, the status will be indicated appropriately in the spreadsheet. The spreadsheet will be updated continually as the exposure assessments are regularly performed.

c. Format:
NASA-Provided spreadsheet

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:
Updated submission shall be monthly, on the 10th of the month

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Health Unit Staffing Report	**10/22/2014**	**M04**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To ensure a Licensed Medical Provider (LMP) is available to respond to a 911 call between the hours of 7:00 A.M. and 5:00 P.M. on normal work days (7:00 A.M. – 4:00 P.M. on alternate Fridays)	____ Technical __X__ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
The Contractor shall provide a report of the schedules of the LMPs working under this contract.

b. Content:
The report shall include the days of the week each LMP is scheduled to work in the Health Unit located at AFRC Main campus for the upcoming month.

c. Format:
Contractor format is acceptable

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:
Submission shall be monthly, on the 10th of the month

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
IH & OM Productivity Reports	**10/22/2014**	**M05**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
The contractor shall track and record the productivity of the Industrial Hygiene (IH) and Occupational Medicine (OM) personnel	____ Technical __X__ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a.Instructions:

The Contractor will complete two NASA-provided spreadsheets on a monthly basis outlining the listed activities performed; one spreadsheet for IH and one for OM.

b.Content:

The IH productivity areas are the number of:

(1) Reviews/Permits
(2) Evaluations/Assessments
(3) Surveys
(4) Samples Taken
(5) Equipment Calibration Activities
(6) Training Events

The OM productivity areas are the number of:

(1) Equipment Calibration and Maintenance Activities
(2) Medical Clearances/Clinic Visits
(3) Fitness Center Usage
(4) Training Events

c.Format:

Two NASA-provided spreadsheets

d. Distribution:

1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. O/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:

Submission shall be monthly, on the 10th of the month

f. Maintenance:

Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Information Technology (IT) Security Management Plan	**10/22/2014**	**M06**	**NND15531906R / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Documents the processes and procedures that will be followed to ensure appropriate security of IT resources that are developed, processed, or used under this contract	____ Technical __X__ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*
NFS 1852.204-76	

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:

In accordance with NFS 1852.204-76 Security Requirements for Unclassified information Technology Resources, the Contractor shall develop and deliver an IT Security Management Plan.

b. Content:

This plan shall describe the processes and procedures that will be followed to ensure appropriate security of IT resources that are develop, processed, or used under this contract. The IT Security Management Plan shall address who the contractor will manage personnel and processes associated with IT Security on the instant contract. The plan shall also address how and when personnel requiring physical or logical access to NASA IT resources will complete NASA's annual IT Security Awareness training. Refer to the IT Training Policy located in the IT Security Web site at https://itsecurity.nasa.gov/policies/index.html.

d. Format:

Use the attached NASA Information Technology Management Plan template

e. Distribution:

1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

f. Submission and Frequency:

30 days after contract award; One time submission

g. Maintenance:

Revisions to this DRD shall be incorporated by change page or complete reissue.

NASA Information Technology Security Management Plan

Prepared For:

National Aeronautics and Space Administration 300 E St., SW
Washington D.C. 20546

WHEN COMPLETED, THIS ATTACHED MATERIAL MAY CONTAIN NASA INFORMATION THAT IS "FOR OFFICIAL USE ONLY," OR OTHER TYPES OF SENSITIVE BUT UNCLASSIFIED INFORMATION REQUIRING PROTECTION AGAINST UNAUTHORIZED DISCLOSURE. THE ATTACHED MATERIALS THEN MUST BE HANDLED AND SAFEGUARDED IN ACCORDANCE WITH NASA MANAGEMENT DIRECTIVES GOVERNING PROTECTION AND DISSEMINATION OF SUCH INFORMATION.

AT A MINIMUM, THE ATTACHED MATERIALS WILL BE DISSEMINATED ONLY ON A "NEED-TO-KNOW" BASIS AND, WHEN UNATTENDED, MUST BE STORED IN A LOCKED CONTAINED OR AREA OFFERING SUFFICIENT PROTECTION AGAINST THEFT, COMPROMISE, INADVERTENT ACCESS AND UNAUTHORIZED DISCLOSURE.

Preface

To carry out its wide-ranging responsibilities, the National Aeronautics and Space Administration (NASA), and its employees and managers have access to diverse and complex automated information systems, which include file servers, local and wide area networks running on various platforms, and telecommunications systems to include communications equipment. The offices within NASA depend on the confidentiality, integrity, and availability of these systems and their data in order to accomplish day-to-day activities.

Title 48: Federal Acquisition Regulations System, Section 1852.204-76 outlines the security requirements for unclassified information technology resources. IT Security Management Plan shall describe the processes and procedures that will be followed 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 will manage personnel and processes associated with IT Security on the instant contract.

Change History

Version	Date	Change Description
1.0	MM/DD/YYYY	Initial Contract Name IT Security Management Plan
	MM/DD/YYYY	
	MM/DD/YYYY	
	MM/DD/YYYY	
	MM/DD/YYYY	
	MM/DD/YYYY	
	MM/DD/YYYY	
	MM/DD/YYYY	
	MM/DD/YYYY	
	MM/DD/YYYY	

IT Security Management Plan Review and Approval

This Information Technology Security Management Plan (ITSMP) for the Contract Name was prepared for the exclusive use of NASA and completed on __/___/____ (date).

I have reviewed the contents of this plan, and believe that it presents an accurate representation.

Reviewed by: _____
Contractor Manager

Date: _____

Contents

Preface 9
Change History 9
IT Security Management Plan Review and Approval 10
1 Contract Identification 12
1.1 Contract Name 12
1.2 Contract Number 12
1.3 Responsible Organization 12
1.4 Contact Information 12
1.4.1 Physical Location 12
1.4.2 Points of Contact 12
1.5 General Contract Description 12
1.5.1 Related Documents 13
2 Security Control Implementations 13
2.1 Management Controls 14
2.2 Operational Controls 15
2.3 Technical Controls 16
Appendix A: Acronyms 18

1 Contract Identification

1.1 Contract Name

Contract Name:

Contract Abbreviation:

1.2 Contract Number

Contract Number:

1.3 Responsible Organization

National Aeronautics and Space Administration (NASA)

1.4 Contact Information

1.4.1 Physical Location

Location Name	Street Address	City	State	Zip Code	Country

1.4.2 Points of Contact

Title	Name	Telephone	Email Address
Contracting Officer (CO) *The CO is the NASA procurement official responsible for the initial award and set- up of the contract.*			
Contract Manager *The Contract Manager is the contractor point of contact for general program management of the contract,*			

1.5 General Contract Description

Include language here regarding the systems and interconnections that the contract involves. Also include whether contractors will be badged, and whether the contract utilizes an infrastructure external to NASA.

Purpose/Function ***Include a brief description of the purpose/function of the contract***	

1.5.1 Related Documents

- 5 U.S.C. 552, Freedom of Information Act, 1967
- 5 U.S.C. 552a, Privacy Act, 1974
- FIPS 199, Standards for Security Categorization of Federal Information and Information Systems
- FIPS 200, Minimum Security Requirements for Federal Information and Information Systems
- NIST SP 800-18, Guide for Developing Security Plans for Federal Information Systems
- NIST SP 800-30, Guide for Conducting Risk Assessments
- NIST SP 800-34, Contingency Planning Guide for Federal Information Systems
- NIST SP 800-37, Guide for Applying the Risk Management Framework to Federal Information Systems: A Security Life Cycle Approach
- NIST SP 800-53, Security and Privacy Controls for Federal Information Systems and Organizations
- NIST SP 800-53A, Assessing Security and Privacy Controls in Federal Information Systems and Organizations: Building Effective Assessment Plans
- NIST SP 800-60, Guide for Mapping Types of Information and Information Systems to Security Categories
- NIST SP 800-61, Computer Security Incident Handling Guide
- NIST SP 800-64, Security Considerations in the Information System Development Life Cycle
- OMB Circular A-130, Appendix III, Security of Federal Automated Information Systems
- Public Law (PL) 99-474, The Computer Fraud and Abuse Act of 1986
- PL 93-502 -Freedom of Information Act 1974
- Presidential Decision Directive (PDD-63), Critical Infrastructure Protection Federal Information Security Management Act of 2002 (FISMA)
- NPR 2810.1, Security of Information Technology

2 Security Control Implementations

The security controls, as described by *NIST SP 800-53*, which relate directly to the general management and overall security approach of the contract are addressed in the following sections.

2.1 Management Controls

Briefly describe the justification/Implementation Detail, this description should allow a reviewer to have a basic understanding of the implementation.

CA-1: Security Assessment and Authorization Policies and Procedures		
Not Applicable to System		Justification/Implementation Detail
Control Description *The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]:* *a. Formal, documented security assessment and authorization policies that address purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the security assessment and authorization policies and associated*		In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
PL-1: Security Planning Policy and Procedures		
Not Applicable to System		Justification/Implementation Detail

Control Description	In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented security planning policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the security planning policy and associated security planning controls.*	

RA-1: Risk Assessment Policy and Procedures	
Not Applicable to System ☐	Justification/Implementation Detail
Control Description	In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented risk assessment policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the risk assessment policy and associated risk assessment controls.*	

SA-1: System and Services Acquisition Policy and Procedures	**CAG 3 – Secure Configurations for Hardware and Software**
Not Applicable to System ☐	Justification/Implementation Detail
Control Description	In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented system and services acquisition policy that includes information security considerations and that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the system and services acquisition policy and associated system and services acquisition controls.*	

2.2 Operational Controls

Briefly describe the justification/Implementation Detail, this description should allow a reviewer to have a basic understanding of the implementation.

AT-1: Security Awareness and Training Policy and Procedures	**CAG 20 – Security Skills Assessment and Appropriate**
Not Applicable to System ☐	Justification/Implementation Detail
Control Description	
The organization develops, disseminates, and reviews/updates [Assignment: organization define frequency]: *a. A formal, documented security awareness and training policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the security* *awareness and training policy and associated security awareness and*	In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.

CM-1: Configuration Management Policy and Procedures	**CAG 2 – Inventory of Authorized and Unauthorized Software** **CAG 3 – Secure Configurations for Hardware and Software** **CAG 4 – Secure Configurations for Network Devices**
Not Applicable to System ☐	Justification/Implementation Detail
Control Description	In accordance with the NASA FAR, external systems are subject to the

The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented configuration management policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the configuration management policy and associated configuration management controls.*	requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
CP-1: Contingency Planning Policy and Procedures	
Not Applicable to System	Justification/Implementation Detail
Control Description	In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented contingency planning policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the contingency planning policy and associated contingency planning controls.*	
IR-1: Incident Response Policy and Procedures	**CAG 18 – Incident Response Capability**
Not Applicable to System	Justification/Implementation Detail
Control Description	In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented incident response policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the incident response policy and associated incident response controls.*	
MA-1: System Maintenance Policy and Procedures	
Not Applicable to System	Justification/Implementation Detail
Control Description	In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented information system maintenance policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the information system maintenance policy and associated system*	
MP-1: Media Protection Policy and Procedures	
Not Applicable to System	Justification/Implementation Detail
Control Description	
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented media protection policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the media protection policy and associated media protection controls.*	In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
PE-1: Physical and Environmental Protection Policy and Procedures	
Not Applicable to System	Justification/Implementation Detail
Control Description	In accordance with the NASA FAR, external systems are subject to the

The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented physical and environmental protection policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the physical and environmental protection policy and associated physical and*	requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.

PS-1: Personnel Security Policy and Procedures		
Not Applicable to System		Justification/Implementation Detail
Control Description		In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented personnel security policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the personnel security policy and associated personnel security controls.*	

SI-1: System and Information Integrity Policy and Procedures		
Not Applicable to System		Justification/Implementation Detail
Control Description		In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented system and information integrity policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the system and information integrity policy and associated system and*	

2.3 Technical Controls

Briefly describe the justification/Implementation Detail, this description should allow a reviewer to have a basic understanding of the implementation.

AC-1: Access Control Policy and Procedures		**CAG 9 – Controlled Access Based on Need to**
Not Applicable to System		Justification/Implementation Detail
Control Description		In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented access control policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the access control policy and associated access controls.*	

AU-1: Audit and Accountability Policy and Procedures		
Not Applicable to System		Justification/Implementation Detail
Control Description		In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented audit and accountability policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the audit and accountability policy and associated audit and accountability controls.*	

IA-1: Identification and Authentication Policy and Procedures		
Not Applicable to System		Justification/Implementation Detail
Control Description		In accordance with the NASA FAR, external systems are subject to the

The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented identification and authentication policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the identification and authentication policy and associated*	requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.

SC-1: System and Communications Protection Policy and Procedures		
Not Applicable to System		Justification/Implementation Detail
Control Description		In accordance with the NASA FAR, external systems are subject to the requirements of NPR 2810 and applicable requirements, regulations, policies, and guidelines are identified in the Applicable Documents List (ADL). The documents listed in the ADL are found at: http://www.nasa.gov/offices/ocio/itsecurity/index.html. If there are variances to the NPR in the external system policy they are listed below.
The organization develops, disseminates, and reviews/updates [Assignment: organization defined frequency]: *a. A formal, documented system and communications protection policy that addresses purpose, scope, roles, responsibilities, management commitment, coordination among organizational entities, and compliance; and* *b. Formal, documented procedures to facilitate the implementation of the system*		

Appendix A: Acronyms

Acronym	Definition
ADL	Applicable Documents List
NPR	NASA Procedural Requirements
SBU	Sensitive But Unclassified

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Monthly Accident Report	**10/22/2014**	**M07**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Documents monthly compliance for Contractors providing support to NASA AFRC	_____ Technical _____ Administrative __X__ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*
AFRC Form 80034, Contractor Monthly Accident	

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions

Using AFRC Form 80034, Contractors will provide a Monthly Accident Report.

b. Content:

The following information will be provided on the Contractor Monthly Accident Report:

1. Average number of employees this month
2. Number of work hours worked this month
3. Number of injuries this month
4. Number of lost-time injuries this month
5. Lost-time days this month
6. Total work hours year-to-date
7. Total lost-time occurrences year-to-date
8. Total lost-time days year-to-date

c. Format:

AFRC Form 80034, Contractor Monthly Accident Report

d. Distribution:

1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)
3. S/Safety, Health and Environmental Quality Office– (Electronic distribution in Microsoft Office or PDF format)

e. Submission

30 days after contract award; Submission shall be monthly, on the 10th of the month

f. Maintenance:

Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
OHP Self-Audit Checklists	**10/22/2014**	**M08**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To ensure that the Center's Industrial Hygiene (IH) and (OM) programs are operating in accordance with NASA Procedural	_____ Technical __X__ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a.Instructions:
Once yearly, the contractor will accomplish NASA-provided self-audit checklists reviewing specific practices in various functional areas.

b. Content:
OHP Self-Audit Checklists address the following areas:

(1) Occupational Medicine
(2) Flight Medicine (those aspects of OM dealing specifically with FAA and NASA flight physicals)
(3) Fitness Center Management
(4) Industrial Hygiene
(5) Health Physics

c. Format:
NASA-provided audit checklists

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:
Submission shall be annually, 30 days prior to the end of the fiscal year

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Organizational Conflict of Interest Mitigation Plan	**10/22/2014**	**M09**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To Ensure that conflicts of interests are mitigated and that each contractor employee acknowledges and agrees to comply with the policy to protect sensitive information	_____ Technical __X__ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*
NFS 1852.237-72 and NFS 1852.237-73	

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
Contractor shall provide an Organizational Conflict of Interest Mitigation Plan

b. Content:
The Organizational Conflict of Interest Mitigation Plan shall discuss the following:

(1) Demonstrate an understanding of: 1) OCI principles, and 2) the full breadth of OCI issues and the types of harm that can result.
(2) Describe the actions the contractor intends to take to mitigate the OCIs identified the RFQ. I fusing a firewall, explain how these actions will operate to successfully address the conflict without adversely affecting performance of the contract. Additionally, identify any potential OCIs created by the requirements of the RFQ which the contractor intends to resolve using methods other than mitigation. Specific mitigation strategies shall be appended to the mitigation plan.
(3) Require the reporting of all potential or actual OCs during performance of the contract. An OCI report shall include: 1) a description of the conflict, 2) the plan for resolving the conflict, and 3) the benefits and risks vis-à-vis contract performance associated with plan approval and acceptance.
(4) Include a requirement to update this plan as necessary to address specific OCs. All updates to the plan must be approved by the Contracting Officer and the updates / changes must be incorporated in the contract to be effective.
(5) Define company roles, responsibilities and procedures for screening (i.e., identifying, analyzing, resolving and reporting existing as well as new business opportunities for actual and potential OCIs.
(6) Identify any affiliated companies / entities (e.g., a parent company or a whole-owned subsidiary) and procedures for coordinating OCIs with such affiliated companies or entities.
(7) Explain how the contractor will flow down the provisions of this mitigation plan to any subcontractor that may have a conflict with regard to performing the requirements of this contract. Discuss affected subcontractors' OCI program as it relates to this contract and specifically explain how affected subcontractor will identify, resolve, and report OCIs associated with this contract.
(8) Establish and require entrance training for new employees, refresher training for existing employees, and exit training for departing employees.
(9) Define organizational and employee sanctions for violations of established OCI procedures, requirements and guidelines.

(10) Require periodic self-audits to ensure compliance with established OCI procedures, requirements and guidelines.
(11) Define records related to the OCI plan (e.g., training and audit records) that will be made available to the Government upon request.

c. Format:
Contractor Format

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:
Upon Contract Award (Needs NASA Approval); to be updated as required thereafter.

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Staffing Plan & Key Personnel	**10/22/2014**	**M10**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Provide staffing plan and qualifications of contractor employed key personnel responsible for leading or managing specific contract functions	_____ Technical _X__ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*
NFS 1852.235-71, Key Personnel and Facilities	

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:

The Contractor shall provide résumés to include qualification, education, training, performance references and applicability of related experience of proposed key personnel responsible for leading or managing specific contract functions. The Contracting Officer will approve key personnel employed on a permanent (more than 90 days) basis. Changes in key personnel require approval by the Contracting Officer.

b. Content:

The Contractor shall provide résumés of key personnel (key personnel are identified by the Quoter).

c. Format:

Contractor Format

d. Distribution:

1. A/Contracting Officer (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative (Electronic distribution in Microsoft Office or PDF format.)

e. Submission:

1. Initial: due with proposal
2. Final and Approval: Contract start + 30 calendar days.
4. Update Frequency: As required.

f. Maintenance:

Revisions to this DRD shall be incorporated by page change or complete reissuance.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Staff Credentials	**10/22/2014**	**M11**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To validate essential credentials for all personnel on the contract for whom licensures and certifications are required	__X__ Technical _____ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
The contractor shall provide copies of required licenses and certifications for all personnel requiring such credentials

b. Content:
Certification and licensure requirements, and the personnel specified, are detailed in the Credential Requirements attachment.

c. Format:
Contractor Format

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Technical Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission
Submission shall be with Quote and updated as modifications occur

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Standard Threshold Shift Reports	**10/22/2014**	**M12**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
The Standard Threshold Shift (STS) report is assembled from data derived from the NASA-provided electronic health record database	____ Technical __X__ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:

The contractor shall extract relevant data from the NASA-provided electronic health record database regarding audiometry results for those individuals in the Hearing Conservation Program.

b. Content:

The STS Report lists the total number of audiograms and the total number of ears tested for a given time-frame, as well as the number presenting with an initial Standard Threshold Shift (as defined by OSHA), the number of re-tests performed, the number NOT persisting on re-test, the number persisting on re-test, as well as the number persisting by default (i.e. failure of follow-up). The number of STSs persisting—whether by re-test or by default—divided by the total number of ears tested for that reporting time-frame (multiplied by 100) is the STS RATE, and will be reported quarterly. Furthermore, this report will record the number of pending baseline revisions, and the number of baselines revised, during the reporting time-frame. Finally, this report will record the number of OSHA-Reportable Shifts (ORSs) for the reporting time-frame.

c. Format:

NASA-provided spreadsheet.

d. Distribution:

1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:

Submission shall be monthly, by the 10th of the month

f. Maintenance:

Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Standing Orders and Protocols	**10/22/2014**	**M13**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To ensure there is consistent medical practice meeting the Standard of Care, even when a clinician is absent, the contractor shall provide written standing order and protocols addressing: 1) Chest Pain, 2) Anaphylactoid Reaction and 3) Initial Emergency Response	____ Technical __X__ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:

These standing orders and protocols shall be written and signed by the Contractor's physician (i.e. Medical Director), and must receive the written concurrence of the AFRC Chief Medical Officer prior to implementation.

b. Content:

The Contractor shall Develop specific, written standing orders and protocols for the contract Health Unit staff (to include the Nurse Practitioner and the Registered Nurses) to address, at a minimum, the following THREE conditions:

(1) Chest pain;
(2) Anaphylactoid reaction;
(3) Initial steps of Emergency Response beyond Basic Life Support (e.g. placing an intravenous line, administering oxygen, applying a cardiac monitor, etc).

c. Format:

NASA-provided templates for each of the three conditions listed above. NOTE: These templates are to be used as a guide ONLY.

d. Distribution:

1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:

Upon Contract Award and updated when modifications occur

f. Maintenance:

Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Management Plan	**10/22/2014**	**M14**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To provide a description of the contractor's overall management system and organization for accomplishing the requirements set forth in the contract	____ Technical __X__ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
The Management Plan shall describe the contractor's approach for accomplishing the requirements set forth in the contract.

b. Content:
The plan shall include, but is not necessarily limited to, the following:

- A description of the project tasks to be accomplished, and an outline of methods by which the contractor proposes to accomplish each element of the PWS;
- A description of management concepts, plans and organizational approach;
- A description of the interfaces between the contractor and the Government that are necessary for the accomplishment of contractual tasks.
- Teaming and Subcontracting charts, roles, and responsibilities of each level, if applicable.
- Descriptions, flow charts, schedules, and other documentation necessary to give a comprehensive plan of the organization.

c. Format:
Contractor Format

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:
Submission shall be with Quote and updated when modification occur.

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Risk Management Plan	**10/22/2014**	**M15**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To provide the Government insight to the contractor's ability to mitigate risks during contract performance	_____ Technical __X__ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*
NPG 7120.5	

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
Prepare a Risk Management Plan that describes the processes for identifying and mitigating performance risk.

b. Content:
The plan shall include, at a minimum, the following:

- Project organization, roles, and responsibilities
- Risk Management activities and practices
- Procedures regarding on-going risk mitigation efforts
- Risk management documentation
- Risk management assumptions, technical considerations and constraints.

c. Format:
Contractor format is acceptable

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:
Upon Contract Award and when significant modifications occur

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Medical Emergency Response Vehicle (MERV) Mileage Report	**10/22/2014**	**M16**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
Establishes monthly compliance for a mileage report submission on the MERV.	____ Technical __X__ Administrative ____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
Mileage reporting on the MERV shall be reported each month.

b. Content:
An email shall be submitted to the Transportation Officer, located in Code F- Facilities, Engineering and Asset Management Office, detailing the following:

1) The Vehicle identified
2) The odometer reading
3) The date the reading occurred

c. Format:
Email

d. Distribution:
1. A/Contracting Officer - (Email)
2. F/Transportation Officer - (Email)

e. Submission and Frequency:
Submission shall be monthly, on the 10th of the month

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
911 Emergency Response Quality Assurance Review Sheet	**10/22/2014**	**Q01**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
This is a checklist used for recording performance data during all Emergencies	_____ Technical __X__ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*
AFRC 10870, 911 Call Review	

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:
The contractor shall complete AFRC 10870 after every emergency occurrence.

b. Content:
The 911 Call Review checklist consists of:
(1) Twenty-one yes/no questions;
(2) Summary of Response narrative;
(3) Corrective Action Recommendations.

c. Format:
Government-provided AFRC Form 10870

d. Distribution:
1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:
Per occurrence; Submission shall be monthly, by the 10th of the month

f. Maintenance:
Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Performance Improvement Report	**10/22/2014**	**Q02**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
To ensure performance improvement goals are met, a report of the Performance Improvement Activities accomplished will be submitted quarterly	_____ Technical __X__ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:

The AFRC Form 10868 is used by AFRC to address performance improvement activities. This form covers four different areas:

1) Plan; Establish the objectives and processes necessary to deliver results in accordance with the expected output.
2) Do; Implement the new processes on a small scale if possible to test possible effects.
3) Check; Measure the new processes and compare results with expected results to ascertain any differences.
4) Act; Analyze the differences to determine cause. Determine where to apply changes that will include improvement.

Using the AFRC Form 10868 the contractor shall accomplish on-going performance improvement activities (as communicated with the COR) in the "Plan-Do-Check-Act" format.

A report summarizing the on-going activities shall be submitted on a quarterly basis. (NOTE: The AFRC Form 10868 itself is not required to be reported; only the summary report is required. However, completed AFRC Form 10868s may be reviewed as part of the evaluation process by the COR).

b. Content:

The performance Improvement Report itself will only list the Title of the performance Improvement Activity, its assigned number, the responsible party, the date the activity was last reviewed, and the status as to whether it is closed or open (i.e. on-going).

c. Format:

AFRC Form 10868

d. Distribution:

1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:

30 days after contract award; Submission of Summary Reports shall be Quarterly, on the 10th of that month (January, April, July and October)

f. Maintenance:

Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	RFP/Contract No. (Procurement completes)
Office Safety Surveys (3 sites)	**10/22/2014**	**S01**	**NND15531905Q / NND15SA10C**

4. Use *(Define need for, intended use of, and/or anticipated results of data)*	5. DRD Category: *(check one)*
The AFRC Form 80260c is an office safety walk-through checklist	_____ Technical __X__ Administrative _____ SR & QA

6. References *(Optional)*	7. Interrelationships *(e.g., with other DRDa) (Optional)*
AFRC 80260c	

8. Preparation Information *(Include complete instructions for document preparation)*

a. Instructions:

The AFRC Form shall be used for three sites: B4877- Fitness Facility, B4822- Occupational Health Unit and B703/N234-Medical Office

b. Content:

The AFRC 80260c consists of 14 questions addressing the following areas:

(1) Housekeeping, Egress, Walking Surfaces;
(2) Earthquake Safety;
(3) Electrical Safety;
(4) Fire Protection.

c. Format:

AFRC Form 80260c

d. Distribution:

1. A/Contracting Officer - (Electronic distribution in Microsoft Office or PDF format.)
2. XV/Contracting Officer's Representative - (Electronic distribution in Microsoft Office or PDF format.)

e. Submission and Frequency:

Submission shall be monthly, on the 10th of the month

f. Maintenance:

Revisions to this DRD shall be incorporated by page change or complete reissue.

AFRC DATA REQUIREMENTS DESCRIPTION (DRD)

1. DRD Title	2. Date of current version	3. DRL Line Item No.	4. RFP/Contract No. (Procurement completes):
Safety, Health and Environmental Management Plan (SHEMP)	**10/22/2014**	**S02**	**NND15531905Q / NND15SA10C**

5. Use *(Define need for, intended use of, and/or anticipated results of data)*	6. DRD Category: *(check one)*
Establishes Safety, Health and Environmental Management Plan Compliance	_____ Technical _____ Administrative __X__ SR & QA

7. References *(Optional)*	8. Due Date:
Attachments A, B and C	**Submit SHEMP 30 days after Contract Award. Complete any modification required by NASA AFRC within 30 days after contract start-date**

9. Preparation Information *(Include complete instructions for document preparation)*

The Contractor shall submit a Safety, Health, and Environmental Management Plan. Contractor format is acceptable.

- The plan shall address the elements contained in **Attachment A.**
- The plan shall address the requirements listed in **Attachment B** that are applicable to the tasks described in the Statement of Work.
- The Contractor must complete and submit the Safety, Health, and Environmental Questionnaire contained in **Attachment C**.

During the execution of the contract, the Contractor will accomplish the following tasks to ensure a safe and healthy work environment for their employees.

1. Make all employees aware of their roles and responsibilities under the SHEMP.

2. Resident contractors must submit form AFRC 80034 by the 10th of each month to the AFRC Contracting Officer (M/S 4811/140) and the AFRC Safety, Health, and Environmental Office (MS 4850) relative to on-site Contractor personnel.

   The AFRC Form 80034 will be provided upon contract award.

3. Report mishaps and close calls within 1 hour to the Safety, Health, and Environmental Office, Building 4850.

4. Assess and document employee training requirements specific to the tasks they are expected to perform. Provide these records to NASA AFRC when requested.

5. Provide required training to employees and provide evidence of training to NASA AFRC when requested.

Attachment A

Safety, Health, and Environmental Management Plan Elements

1.0	MANAGEMENT LEADERSHIP & EMPLOYEE PARTICIPATION
1.1	Provide the contractor's safety, health, and environmental (SHE) policy statement. Compare the contractor's policy statement with AFRC and OSHA and discuss any differences.
1.2	Describe and discuss specific goals and objectives of your SHE plan using the framework of the four elements of OSHA's VPP Safety and Health Management System (Management Leadership & Employee Involvement, Worksite Analysis, Hazard Prevention & Control, and Safety & Health Training).
1.3	Describe the process and procedures for implementing management commitment to safety and health through visible activities and initiatives including the exercise of controls to ensure workplace safety and health. Include a statement from the project manager or designated safety official indicating the plan will be implemented as approved and that the project manager will take personal responsibility for the implementation.
1.4	Describe how your employees are involved in safety and health program development, implementation, and decision-making process.
1.5	Describe the line and staff responsibilities for SHE program implementation. Identify any other personnel or organizations that provide safety services or exercises any form of control or assurance in these areas. As a minimum, identify the following: a. Safety Representative - individual responsible for the Contractor's adherence to Center-wide safety, health, environmental and fire protection concerns and goals and will participate in meetings related to Center's SHE Program. b. Company Physician – provide the identification of a company physician to facilitate communication of medical data to the head of the AFRC clinic. The contractor shall identify the point of contact by name, address, and telephone number to the AFRC center clinic. c. Building Fire Warden - each building occupied by the contractor will have an assigned individual to facilitate the Center's fire safety program. Identify the assigned contractor's Building Fire Warden. d. Designated Safety Official – Identify the individual responsible for implementing the proposed Safety and Health Plan.
1.6	Compare the provisions & procedures in the proposed SHE plan with applicable AFRC requirements and contractual directions, and applicable Federal, State, and local regulations. Identify the lines of authority and responsibility for each requirement and regulation. Discuss how the subsequent contractor's SHE will be controlled to maintain the identified lines of authority and responsibility for the life of the contract.
1.7	Describe the procedures for ensuring that management and employees will be held accountable for implementing their tasks in a safe and healthful manner. Include discipline, motivational techniques, or any other techniques that ensure accountability.
1.8	Describe the method to be used for internal program reviews & evaluations. Program reviews may consist of either (1) participation in OSHA VPP surveys at the request of the Government or (2) description in a written report that documents the methods & procedures for determining the existence and criticality of the hazardous operations.

1.9	Describe the approach taken to document the contractor SHE program performance to provide necessary visibility and insight. Identify what records will be made available to the Government in accordance with OSHA's VPP criteria as implemented at AFRC. As a minimum, the following will be provided: a. Roster of Terminated Employees - list of terminated employees reported sent to the Center Occupational Health Program Office no later than 30 days after the end of each contract year or at the end of the contract. b. Material Safety Data - description of the procedure to be used to prepare Material Safety Data for hazardous materials brought onto Government property or including in products delivered to the Government. (OSHA 29 CFR Part 1910.1200) c. Hazardous Materials Inventory - compile and report inventory of all hazardous materials within the scope of 29 CFR Part 1910.1200, and their location on Government property.
1.10	The contractor shall recognize in its plan that it will be expected to make all safety and health documentation (including relevant personnel records) available for inspection or audit at the Government's request.
1.11	The contractor may be requested to participate in the review and modification of safety requirements that are to be implemented by the Government including any referenced documents therein. This review activity will be implemented at the direction of the AFRC Contracting Officer's Technical Representative in accordance with established AFRC directives and procedures.
1.12	Identify procedures used to assure that the contractor's procurements are reviewed for safety and environmental considerations and that those specifications contain appropriate criteria and instructions.
2.0	**WORKPLACE ANALYSIS**
	Describe the method and techniques the contractor will use to systematically identify the hazards within the workplace for the duration of the contract. All hazards identified on AFRC property that is immediately dangerous to life or health should be reported immediately to the AFRC safety office and to the Contractor's President/Program Manager in order to ensure that proper attention and correction is given to these hazards.
2.1	Describe the procedures and techniques to be used to compile an inventory of hazards associated with the work to be performed on this contract. Specific techniques to be considered include: a. Comprehensive Survey - wall-to-wall engineering assessment of the work site. b. Change Analysis - addresses modifications in facilities, equipment, processes, and materials (including waste). c. Hazard Analysis - Addresses facilities, systems, operations, processes, materials (including waste), and specific tasks or jobs.
2.2	Includes the procedures and frequency for regular inspections and evaluations of work areas' hazards and who will be accountable for implementing of corrective measures. (inspection program or monthly report)
2.3	The contractor will identify the methods to be used to encourage employees to report hazardous conditions (e.g., close calls) and analyze/abate hazards. The contractor will describe steps to be taken to create reprisal-free employee reporting with emphasis on management support for employees and describe methods to be used to incorporate employee insights into hazard abatement activities.

ATTACHMENT B

Potentially Applicable Requirements

All work conducted under a contract, grant, or cooperative agreement shall adhere to the **applicable** parts of 29 CFR Part 1910, 29 CFR Part 1926, 40 CFR, NASA Procedural Requirements, NASA Policy Documents, and the AFRC Requirements Documents listed below.

1	DST–1800.1-001, Ionizing Radiation Safety
2	DCP-S-009, Chapter 12, Non-Ionizing Radiation Safety
3	DCP-S-009, Chapter 16, Respiratory Safety
4	DST–1800.1-003, Hearing Conservation
5	DCP-S-054 Emergency Preparedness and Response
6	DCP-S-060 Shop Safety
7	DCP-S-061 Fire Safety
8	DCP-S-062 Lockout / Tagout Program
9	DCP-S-063 Electrical Safety
10	DCP-S-064 Lifting Operations, Devices, & Equipment
11	DCP-S-065 Pressure Vessels & Pressurized Systems Safety
12	DCP-S-066 Communication of Chemical Hazards
13	DCP-S-067 Confined Space Safety
14	DST–8715.3-003, Cryogen Safety
15	DCP-S-071 Heat Stress Measurement, Notification, & Response Procedure
16	DCP-S-072 Laboratory Safety
17	DCP-S-076 Ergonomics
18	DCP-S-101 Environmental Management System Air Resources Management
19	DCP-S-102 Environmental Management System Chemical Management
20	DCP-S-103 Environmental Management System Cultural Resources Management
21	DCP-S-104 Environmental Management System National Environmental Policy Act (NEPA)
22	DCP-S-105 Environmental Management System Natural Resources Management
23	DCP-S-106 Environmental Management System Restoration Management
24	DCP-S-107 Environmental Management System Water Resources Management
25	DCP-O-001 Aircraft Maintenance and Safety Manual
26	EMSM – Environmental Management System Manual

ATTACHMENT C

SAFETY, HEALTH, AND ENVIRONMENTAL (SHE) QUESTIONNAIRE

Company Name _____

Company's SHE Manager (or person(s) responsible for the company's Safety, Health, and Environmental Programs

Name _____ Title _____Phone _____

Name _____ Title _____Phone _____

Name _____ Title _____Phone _____

Complete this questionnaire and return it along with your proposal. Failure to provide all requested information may cause your proposal to be removed from this competition for work at the NASA Armstrong Flight Research Center.

1) North American Industry Classification System (NAICS) code _____

2) Experience Modification Rate (EMR) _____

3) Number of employees (company-wide) _____

4) Number of occupational fatalities (company-wide) for the last four years:

Year	Number
_____	_____
_____	_____
_____	_____
_____	_____

5) Number of OSHA citations and EPA Notice of Violations (company-wide) for the last four years:

Year	Number
_____	_____
_____	_____
_____	_____
_____	_____

6) Overall OSHA Injury & Illness Case Rate (Total No. OSHA Recordable Cases divided by Total Hours Worked times (X) 200,000 company-wide for the last four years:

Year	Rate
_____	_____
_____	_____
_____	_____
_____	_____

7) Check all of the following that apply to work to be performed on NASA / ARMSTRONG Property

- ❑ Enter or dig evacuation deeper than 4 feet
- ❑ Entry into confined spaces
- ❑ Work at heights 4 feet or higher
- ❑ Perform renovation and demolition tasks
- ❑ Use or disturb existing asbestos or lead
- ❑ Electrical work
- ❑ Work involving steel erection
- ❑ Service or repair machinery or equipment requiring lockout/tagout procedures
- ❑ High pressure liquids, vapors and/or gas systems
- ❑ Laser operations / calibrations / laboratory ops / aircraft installation
- ❑ Install or use items that contain radioactive materials / sources (e.g. detectors with sealed sources, exit signs containing tritium, etc.)
- ❑ Use significant amount of hazardous materials (> 1 gallon) of solvents, acids, alkalis, or toxins; or use any amount of substances that contain 0.1% or more of OSHA regulated carcinogen; or any painting/pesticide application, or flooring removal/installation
- ❑ Composite fibers
- ❑ Aircraft / Equipment cleaning
- ❑ Painting operations
- ❑ Corrosion removal / treatment

- ❑ Radiation producing equipment (e.g. x-ray equipment, Industrial gauge meter, lead paint analyzers, etc.)
- ❑ Radio frequency (RF) transmitters and equipment
- ❑ Use of hearing protection or noise producing exposure
- ❑ Air emission sources
- ❑ New or Modified construction
- ❑ Other activities with potential environmental impact

NASA Procedural Requirements

NPR 1800.1C
Effective Date: October 06, 2009
Expiration Date: May 06, 2015

COMPLIANCE IS MANDATORY

NASA Occupational Health Program Procedures w/Change 2 (05/17/2013)

Responsible Office: Office of the Chief Health & Medical Officer

Table of Contents

Change Log

Preface

P.1 Purpose
P.2 Applicability
P.3 Authority
P.4 Applicable Documents
P.5 Measurement/Verification
P.6 Cancellation

Chapter 1. Introduction

1.1 Designated Agency Safety and Health Official
1.2 Medical Waiver Authority
1.3 Annual Reports
1.4 Credentialing, Education, and Training of Occupational Health Professionals
1.5 Web Site Initiatives and Capabilities
1.6 NASA Occupational Health Program Model Statements of Work
1.7 Support of Federal-wide and Interagency Initiatives
1.8 Occupational Health Program Audit Overview

Chapter 2. Occupational Medicine

2.1 Occupational Medicine, General
2.2 Medical Quality Assurance
2.3 Disease and Injury Prevention

2.4 Diagnosis and Treatment of Occupational Illness or Injury
2.5 Immunizations
2.6 Medical Support to Emergency Preparedness Planning
2.7 Pandemic Planning
2.8 Plan for a Drug-Free Workplace
2.9 Physical Examinations
2.10 Emergency Medical Services
2.11 Automated External Defibrillator (AED) Program
2.12 Bloodborne Pathogens
2.13 Infection Control
2.14 Medical Record Management
2.15 Shift Work and Balancing Work-Rest Cycles
2.16 International Travel or Assignment

Chapter 3. Primary Prevention and Health Promotion

3.1 Primary Prevention and Health Promotion
3.2 Primary Prevention
3.3 Fitness Centers
3.4 Nutrition
3.5 Solar Safe Program
3.6 Smoking Cessation
3.7 Annual Immunization Program

Chapter 4. Environmental Health

4.1 Introduction
4.2 Occupational Exposure Limits
4.3 Occupational Exposure Assessment and Management
4.4 Sampling, Analytical Methods, and Equipment Calibration
4.5 Reproductive and Developmental Health
4.6 Nanotoxicology
4.7 Control of Hazardous Substances and Articles Acquisitions
4.8 Hearing Conservation
4.9 Ergonomics
4.10 Indoor Air Quality
4.11 Biosafety
4.12 Food Safety
4.13 Radiation, General
4.14 Radioactive Materials
4.15 Radiation-Generating Equipment
4.16 Laser and Non-laser Optical Radiation
4.17 Radio Frequency Electromagnetic Radiation

Chapter 5. Employee Assistance Program (EAP)

5.1 Introduction
5.2 EAP Confidentiality
5.3 EAP Record Access

5.4 Release of Case Information and Secondary Disclosure
5.5 EAP Roles
5.6 Responsibilities
5.7 Program Elements

Chapter 6. Federal Workers' Compensation Program

6.1 Introduction
6.2 Safety, Health, and Return to Employment (SHARE)
6.3 Eligibility
6.4 Records Access and Privacy Act
6.5 Forms
6.6 Case Management
6.7 Responsibilities
6.8 Process Description
6.9 Reports and Recordkeeping

Chapter 7. Occupational Health Program Review Process

7.1 Introduction
7.2 Responsibilities
7.3 Process Description

Appendix A. Definitions
Appendix B. Acronyms
Appendix C. Physical Examination Matrix
Appendix D. Partial Listing of Hazardous and Potentially Hazardous Substances and Articles
Appendix E. Current Center Review Schedule
Appendix F. References

Change Log
NPR 1800.1C, NASA Occupational Health Program Procedures w/Change 2 (05/17/2013)

Change #	Center	Date Approved	Description
1	Office of the Chief Health and Medical Officer	12/31/2009	The following directives were added to paragraph "P.6 Cancellation" because these documents were consolidated in the revision of NPR 1800.1C: 1) NPR 1810.1A, Health Services for International Travel or Assignment 2) NPD 1810.2B, NASA Occupational Health Medicine Program (Revalidated 3/29/04) 3) NPD 1820.1B, NASA Environmental Health Program (Revalidated 3/29/04) 4) NPD 1830.1B, NASA Employee Assistance Program (Revalidated 3/29/04) 5) NPD 1840.1B, NASA Worker's Compensation Program (Revalidated 3/29/04) 6) NPD 1840.1, Management of Workers' Compensation Injuries and Illnesses w/Change 1
2	Office of the Chief Health and Medical Officer	5/17/2013	The removal of language in Chapter 7 as it relates to a rating system for OCHMO reviews which has no impact on NASA

Preface

P.1 Purpose

a. This NASA Procedural Requirement (NPR) describes occupational health program procedures necessary to effectively carry out the mission of the Office of the Chief Health and Medical Officer as specified in Section 4.16.1 of NPD 1000.3C, The NASA Organization and to ensure that the scope and quality of services provided by Occupational Health Program (OHP) personnel at NASA Centers are optimal. Both OHP professionals and allied professionals throughout the Agency shall utilize these procedures, as appropriate, in their daily tasks to assure the health of employees and a safe work environment.

b. Where conflicts exist between other NASA health and safety requirements, Occupational Safety and Health Administration requirements and other Federal, state, or local regulations, the most protective requirements shall apply.

c. OHP services shall encompass six constituent areas, all working synergistically to support employee health, yet functioning under different legal statutes and requiring unique professional expertise and different process procedures and outcome metrics. These six constituent programs include Occupational Medicine, Environmental Health, Radiological Health, Health Promotion and Wellness, Workers' Compensation, and Employee Assistance.

d. Recordkeeping is one area that overlaps all six of the OHP constituent areas. While each area has recordkeeping requirements specific to it, there are a few requirements that apply across the board. All OHP records (e.g., medical, industrial hygiene, and compensation claims) shall be safeguarded, maintained, and dispositioned in accordance with the following:

(1) NPR 1441.1, NASA Records Retention Schedules;

(2) 5 U.S.C. 552a, the Privacy Act of 1974, as amended; and

(3) The Health Information Management System (HIMS) in NASA's "Privacy Act; Annual Notice and Amendment to Systems of Records," published in the Federal Register.

P.2 Applicability

This NPR is applicable to NASA Headquarters, NASA Centers, and Component Facilities, as well as to the Jet Propulsion Laboratory and to NASA contractors to the extent specified in their contracts.

P.3 Authority

a. 29 U.S.C 668, Section 19 of the Occupational Health and Safety Act of 1970, as amended, Programs of Federal Agencies.

b. 5 U.S.C 7901, Health Services Programs.

c. Executive Order 12196, dated February 26, 1980, Occupational Safety and Health Programs for Federal Employees, 3 CFR (1980 Compilation).

d. 29 CFR Part 1960, Basic Program Elements for Federal Employee Occupational Safety and

Health Programs and Related Matters.

P.4 Applicable Documents

a. 5 U.S.C. 552a, the Privacy Act of 1974.

b. NPD 1800.2, NASA Occupational Health Program.

c. NPR 1000.3, The NASA Organization.

d. NPR 1441.1, NASA Records Retention Schedules.

e. NPR 8715.1, NASA Occupational Safety and Health Program.

f. NPR 8621.1, NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating and Recordkeeping.

g. NPR 8715.2, NASA Emergency Preparedness Plan Procedures and Guidelines.

P.5 Measurement/Verification

Triennial audit process and interim Center self audits.

P.6 Cancellation

a. NPR 1800.1B, NASA Occupational Health Program Procedures, dated January 30, 2007.

b. NPR 1810.1A, Health Services for International Travel or Assignment

c. NPD 1810.2B, NASA Occupational Health Medicine Program (Revalidated 3/29/04)

d. NPD 1820.1B, NASA Environmental Health Program (Revalidated 3/29/04)

e. NPD 1830.1B, NASA Employee Assistance Program (Revalidated 3/29/04)

f. NPD 1840.1B, NASA Worker's Compensation Program (Revalidated 3/29/04)

g. NPD 1840.1, Management of Workers' Compensation Injuries and Illnesses w/Change 1

/s/
Richard S. Williams

Chapter 1. Policy

1.1 Designated Agency Safety and Health Official

1.1.1 The Chief Health and Medical Officer (CHMO) serves as the Designated Agency Safety and Health Officer (DASHO) liaison to the Department of Labor (DoL), as required by Executive Order 12196.

1.1.2 All official, Agency-related communication with Occupational Health and Safety Administration (OSHA) shall be through the DASHO. The DASHO shall be copied on, or otherwise informed of, all Center communication with OSHA.

1.1.3 In addition, the Office of Safety and Mission Assurance shall be copied on all correspondence to help ensure configuration management of policy and processes for safety.

1.2 Medical Waiver Authority

1.2.1 The CHMO shall serve as the Agency Health and Medical Technical Authority (HMTA) for all health and medical technical requirements, standards, and matters, possessing the final waiver authority for any NASA health and medical requirement.

1.2.2 The CHMO delegates authority to each NASA Center's Chief Medical Officer/Medical Director (where appropriate).

1.2.3 The CHMO shall be responsible for ensuring the health and safety of NASA employees in space and on the ground by developing medical policy, establishing guidelines for health and medical practice in the Agency, providing oversight of health care delivery, assuring professional competency Agency wide, and reviewing and approving research requirements and deliverables.

1.2.4 Center Chief Medical Officers/Medical Directors (where appropriate) in collaboration with the NASA Center's occupational health Contracting Officer Technical Representative (COTR) shall be responsible for:

a. Ensuring appropriate credentials reviews of all health care providers stipulated in all statements of work for contracts procuring occupational health services.

b. Notifying the Agency CHMO of cases of impaired providers and actions taken as they occur.

1.3 Required Annual Reports

1.3.1 OSHA Report

1.3.1.1 NASA shall submit an annual report to the Secretary of Labor containing the status of NASA's Occupational Health Program (OHP) during the preceding year, goals and objectives for the current year, and a plan for achieving those goals. The procedure for collecting the requisite data shall be as follows:

a. NASA OHP shall forward the format to the Centers each year as soon as it is received from OSHA/DoL.

b. NASA installations shall complete the form and return it to Office of the Chief Health and

Medical Officer (OCHMO) by the designated deadline.

c. The report shall be jointly prepared by the Office of Safety and Mission Assurance and the OCHMO, signed by the DASHO, and submitted to OSHA by the January deadline.

1.3.2 Cost and Staffing Report

1.3.2.1 A Cost and Staffing Report shall be compiled annually as part of the OCHMO internal budget process to support funding for the NASA OHP. Each Center shall submit to OCHMO the following data:

a. The number of staff, civil service or contractor, and the man-hours utilized for each professional discipline reported.

b. Data shall include both occupational medicine and environmental health staffing.

1.3.3 Employee Assistance Program (EAP) Report

1.3.3.1 Center EAP clinicians in conjunction with their occupational health COTR shall submit EAP statistics to the Agency EAP manager quarterly or as requested. EAP statistics shall, at a minimum, include the Center, number and types of EAP cases, referral source, primary presenting issue, and assessment/final disposition.

1.3.3.2 Data shall be collected electronically whenever possible.

1.3.4 Drug-Free Workplace Program

1.3.4.1 The overall responsibility for NASA's Drug-Free Workplace Program (DFWP) lies with the Office of Human Capital Management (OHCM). The OCHMO shall support this program by developing, administering, and evaluating the Agency-wide Medical Review Officer (MRO) function as it relates to drug testing, as well as by mandatory referrals to the EAP when positive test results are noted.

1.3.4.2 The Center MRO is usually the Center Medical Director. The MRO shall receive test results directly from the certifying drug test laboratory, confirm positive test results, and review as needed with the Agency MRO, who is appointed by the CHMO, prior to notifying the Center. The validity of positive and negative test results shall be confirmed administratively. When the Center MRO is someone other than the Center Medical Director, the Agency MRO shall approve the person's credentials.

1.4 Credentialing, Education, and Training of Occupational Health Professionals

1.4.1 Policy

1.4.1.1 All Occupational Health (OH) professional disciplines (Occupational Medicine (OM), Environmental Health (EH), Employee Assistance Program (EAP), Workers' Compensation (WC), Fitness, etc.) shall maintain all appropriate credentials and licenses and remain current in their respective fields.

1.4.2 Responsibilities

1.4.2.1 The CHMO shall provide oversight in the area of credentialing, education, and training of OH professionals and shall assess compliance with this policy.

1.4.2.2 The CHMO shall maintain minimum credentialing, education, and training requirements for each primary OH discipline.

1.4.2.3 The CHMO shall work with the NASA Centers to determine the most appropriate education and training opportunities. CHMO shall provide accessible professional development training opportunities and resources on a routine basis to include training courses, video conferences, meetings, Web-based training, and other educational opportunities. CHMO shall actively promote appropriate professional certifications in all disciplines by emphasizing certification, procuring resources to prepare for certification, and by recognizing certified personnel.

1.4.2.4 Centers shall establish and maintain effective organizations to fulfill OH requirements using professionally qualified persons and allocating sufficient resources for the OH program. NASA Centers shall ensure all current professional licensures, certifications, and accreditations necessary for professional operations are maintained. Maintaining required licensure and certification dictates certain continuing education requirements for OH professionals.

1.4.2.5 Center OH managers shall conduct assessments of professional and career development needs to determine the training required of their OH staff. These needs shall be communicated to Center management in an effort to secure adequate resources.

1.4.3 Process Description

1.4.3.1 NASA installation hiring policies shall comply with Federal and NASA requirements for professional education standards and, where applicable, with state licensure statutes.

1.4.3.2 NASA installations shall hire OH professionals with experience and credentials commensurate with program requirements and minimum standards as established by the OCHMO.

1.4.3.3 NASA Center OH managers shall design, implement, and maintain minimum education, training, and credentialing requirements for all OH program personnel, civil service personnel, or contractor commensurate with program requirements and minimum standards as established by OCHMO.

1.4.3.4 NASA Center OH managers shall ensure a process is in place for evaluating compliance with all OH program education, training, and credentialing requirements. This includes both civil service personnel and contractor personnel.

1.4.3.5 The Center OH managers shall encourage and support all Agency educational and training activities as budgets permit such as the annual OH Meeting, Safety Directors and Occupational Health Managers meeting, Video Teleconferencing System, and OCHMO sponsored training courses. This includes both civil service personnel and contractor personnel.

1.4.3.6 The OCHMO shall perform an annual training needs assessment of OH personnel at the Centers to determine what topical areas are needed most for the training of OH staff across NASA. The results of this assessment shall be used to develop an annual training plan.

1.4.3.7 The OCHMO shall arrange and provide a variety of training programs. All programs, when appropriate, shall have continuing education credit commensurate with the OH discipline receiving the training. These training programs include, but are not limited to, the following:

a. Assuring availability of the most current and authoritative written reference materials.

b. Providing ready access to intercenter and external consultants.

c. Providing regular live and taped audio and video training that complies with Section 508.

d. Planning an annual Occupational Health Meeting covering all OHP disciplines.

e. Promoting intercenter and external events (courses, workshops, seminars) on essential topics by discipline experts.

f. Conducting hands-on training in procedures and simulation exercises to refresh and augment skills where handling of actual events is infrequent.

1.4.3.8 Questions regarding training requirements shall be directed to the individual organization training coordinator or other entity responsible for providing training.

1.5 Web Site Initiatives and Capabilities

1.5.1 Policy

1.5.1.1 The NASA OH Web site (ohp.nasa.gov) shall be the primary resource for quick dissemination of OH related information to OH personnel to assist OCHMO in communicating to NASA Centers and facilities.

1.5.2 Responsibilities

1.5.2.1 The CHMO shall be responsible for maintaining the NASA OH Web site as a means of disseminating information and providing guidance to NASA Centers and Facilities on OH related topics and policies.

1.5.2.2 The OH Support Office shall be responsible for the design and management of the NASA OH Web site.

1.5.2.3 The CHMO, OCHMO, and OH Support Office discipline-specific subject matter experts are responsible for managing the technical content of the Web site.

1.5.2 Process Description

1.5.3.1 The NASA OH Web site content shall be delivered in a reliable and responsive manner while meeting all of NASA's security, accessibility, and data privacy regulations.

1.5.3.2 The content of the OH Web site shall be designed by the appropriate discipline-specific experts to meet the needs of the NASA OH community.

1.5.3.3 The OH Web site shall be updated on a regular basis with current health news, OH discipline-related information, health promotion resources, and policies.

1.5.3.4 The OH Web site shall provide annual OH meeting information and registration for attendees.

1.5.3.5 The OH Web site shall maintain an archive of meetings, health promotion calendars, articles of interest, and OH Newsletters.

1.6 NASA Occupational Health Program Model Statements of Work

1.6.1 Policy

1.6.1.1 NASA Centers shall manage and organize OH programs via support service contracts according to Center's mission needs.

1.6.1.2 Center OH support contracts shall incorporate the service contract requirements for each OH discipline as required in the NASA OHP Standardized Statement of Work (SOW).

NOTE: This document is available on the policies page of the OH Web site [http://www.ohp.nasa.gov] for Center personnel who are preparing the requirements for OH support contracts at the Centers.

1.6.2 Responsibilities

1.6.2.1 The CHMO shall periodically revise the NASA OHP SOW document and ensure that it is current with new regulations or significant issues within the OH professions and assess compliance with this policy.

1.6.2.2 The Centers shall be responsible for ensuring their OH service contracts incorporate the minimum service requirements listed in the SOW as they are applicable to their Center's OH program needs.

1.6.3 Process Description

a. When a Center OH service contract is being prepared, the Center shall incorporate all applicable OH service requirements into the contract as identified in the NASA SOW.

b. When Center operations require deviations from the minimum OH requirements as stated in the SOW, they shall request a variance from OCHMO. Any variances must be submitted in writing to the Director of Occupational Health (DOH) for review and approval by the CHMO.

1.7 Support of Federal-wide and Interagency Initiatives

1.7.1 Policy

1.7.1.1 All NASA Centers shall adopt polices/programs in support of a healthy work environment as directed by OCHMO based on guidance from the Office of Personnel Management (OPM) pertaining to work/life issues.

1.7.2 Responsibilities

1.7.2.1 The CHMO and OHCM shall be responsible for collaborating with and supporting the OPM agenda.

1.7.2.2 The CHMO shall provide guidance and technical support to the Center COTRs as they develop their Center specific health and work/life policies. The CHMO shall communicate all initiatives from the OPM that NASA is supporting.

1.7.2.3 The COTR and the Center Medical Director shall actively support all CHMO-directed health and productivity initiatives and ensure required metrics are collected and reported to CHMO.

1.7.2.4 The Health Promotion Workgroup (HPW) Team members shall coordinate all efforts at the Center level and complete an evaluation of the process at its closure.

1.7.3 Process Description

1.7.3.1 In cooperation with the OHCM, the CHMO shall communicate all Agency-sanctioned work/life and health and productivity initiatives through the HPW Team.

1.7.3.2 The Center's HPW Team representative shall collaborate with the COTR and Medical

Director to plan and effectively implement all Agency-directed initiatives.

1.7.3.3 The Center HPW Team representatives shall collect and analyze their metrics and report the required data points to the COTR and the Medical Director prior to reporting to the OCHMO.

1.8 Occupational Health Program Audit Overview

1.8.1 Policy

1.8.1.1 The audit process shall assess compliance with all applicable regulations and requirements at all NASA Centers and facilities for the following disciplines: OM, Industrial Hygiene (IH), Health Physics, Food Sanitation, Fitness, EAP and WC.

1.8.1.2 The audit team shall conduct on-site Center audits as per Chapter 7 of this NPR.

1.8.2 Responsibilities

1.8.2.1 The CHMO shall assess the effectiveness of the Agency's OH programs at all NASA Centers and Facilities. To carry out this responsibility, it conducts periodic audits of NASA Center OH programs.

1.8.2.2 The CHMO shall perform audits as per the requirements specified in Chapter 7 of this document.

1.8.2.3 Center OH Managers shall be responsible for providing adequate provisions and resources in support of an Agency audit. This includes providing documents in a timely fashion, providing on-site office accommodations, being present for the on-site audit activities, and responding in a timely fashion to audit findings.

1.8.3 Process Description

1.8.3.1 For a detailed description of the audit process, refer to Chapter 7 of this document.

Chapter 2. Occupational Medicine

2.1 Occupational Medicine, General

2.1.1 Policy

2.1.1.1 The Occupational Medicine (OM) clinics shall meet all applicable requirements of Federal and state regulations, professional standards, NASA Medical Quality Assurance (QA) Program, and other NASA program requirements.

2.1.2 Responsibilities

2.1.2.1 The Chief Health and Medical Officer (CHMO) shall establish policy requirements for the OM programs.

2.1.2.2 The Director of Occupational Health (DOH) shall ensure the oversight, advocacy of Center OM programs through regular periodic audits.

2.1.2.3 The Medical Contracting Officer Technical Representative (COTR) at each Center shall ensure appropriate funding for meeting programmatic requirements within the scope of service being provided.

2.1.2.4 The Center Medical Director shall be responsible for meeting all Federal, state, and NASA requirements.

2.1.2.5 The NASA Occupational Health (OH) personnel shall notify the CHMO when a Medical Director change occurs at their Center.

2.1.3 Process Description

2.1.3.1 Center OM clinics shall refer to the NASA OH Web site (www.ohp.nasa.gov) for recommendations on meeting program requirements. NASA OH Document, Guidelines, and Checklists are located on the policies page of the Web site.

2.1.3.2 Center OM clinics shall have emergency preparedness policies and procedures in place for emergency operation of the clinic and support of the Center Emergency Preparedness Plan. The OM clinic roles and responsibilities shall be integrated into the Center Plan.

2.1.3.3 The Designated Agency Safety and Health Officer (DASHO) shall be copied on, or otherwise informed of, all Center communication with the Occupational Safety and Health Administration (OSHA) as specified in 29 CFR 1904.39(a) and in the case of an arrival of an OSHA Inspector on Center.

2.1.3.4 The NASA CHMO and DOH shall be informed of any of the following medical incidents at NASA Centers from:

a. Any employee death on duty;

b. Cluster investigations;

c. Infectious disease outbreaks;

d. Automatic External Defibrillator (AED) use and outcome;

e. Quality of care issues;

f. Workplace violence; and

g. Medical incident or evacuation of employee on international travel.

2.1.3.5 Center OM physicians and other healthcare providers (e.g., nurse practitioners, physician assistants) shall be appropriately credentialed and privileged in compliance with the requirements of the NASA Medical QA program. The OM staff shall be trained for the tasks they are required to perform and shall meet all regulatory training requirements. Other training and certification requirements can be found in the NASA Occupational Health Program Model Statements of Work (SOW) located on the policies page of the NASA OH Web site (www.ohp.nasa.gov).

2.1.3.6 Center COTRs shall be responsible for advocating adequate budget and resources for OM clinics to provide services. If a reduction in budget has a significant impact on the delivery of OM services, the Office of the Chief Health and Medical Officer (OCHMO) shall be informed.

2.2 Medical Quality Assurance

2.2.1 Policy

2.2.1.1 All NASA OM clinics shall establish a medical quality assurance program that meets all of the NASA Medical QA Program.

2.2.2 Responsibilities

2.2.2.1 The CHMO shall set medical quality assurance program policy.

2.2.2.2 The DOH shall ensure compliance with OH medical QA policy through regular periodic audits.

2.2.2.3 The COTR is responsible for advocating for sufficient resources to implement a medical quality assurance program.

2.2.2.4 The Center's medical staff is responsible for developing the Center policies and procedures and implementing a medical QA program.

2.2.3 Process Description

2.2.3.1 A comprehensive set of policies and procedures shall be developed to meet the quality of care standards. They shall meet all the requirements of the Employee-Directed Principles (Managing Employee Assessment, Employee Care Process, Coordinating Employee Care, Employee Care Rights, and Employee Healthcare Education) and Management-Directed Principles (Facility and Safety Management, Governance, Information Management Services, Infection Control Services, Performance Improvement Management, and Staff Qualifications and Competency) as found on the OH Web site at www.ohp.nasa.gov.

2.2.3.2 The OM clinics shall establish and monitor medical QA program metrics to evaluate the program effectiveness.

2.3 Disease and Injury Prevention

2.3.1 Policy

2.3.1.1 NASA OH programs shall encompass primary prevention, health promotion, and a comprehensive safety program that impacts both individual health and Agency wellness.

2.3.2 Responsibilities

2.3.2.1 Center Occupational Health Program (OHP) personnel on the Health Promotion Committee shall provide a variety of prevention services such as medical examinations, health and wellness promotions, immunizations, food sanitization services, assorted health screenings, and control of chemical and physical hazards.

2.3.3 Process Description

2.3.3.1 Health Promotion Programs shall be implemented through both Agency-directed and Center-planned activities.

2.3.3.2 The efficacy of primary prevention activities shall be documented with appropriately selected metrics for benchmarking, continuous improvement of programs, and resource allocation.

2.4 Diagnosis and Treatment of Occupational Illness or Injury

2.4.1 Policy

2.4.1.1 NASA Centers shall ensure timely diagnosis and treatment of occupational injuries and illnesses and act to minimize the recurrence of a similar problem in other coworkers and those in similar jobs.

2.4.2 Responsibilities

2.4.2.1 The CHMO shall set policy and provide oversight of clinical activities.

2.4.2.2 The DOH ensures the appropriate delivery of diagnostic and treatment service through regular periodic audits.

2.4.2.3 The Medical Director at each NASA Center is responsible for accurate diagnosis, timely treatment, and appropriate follow up of all occupational injuries and illnesses in employees and for reporting all work-related injuries and illnesses to Center personnel responsible for OSHA recordkeeping.

2.4.2.4 Any developing trends in occupational injury and illness shall be reported to the Center Director who informs the CHMO.

2.4.3 Process Description

2.4.3.1 The following steps shall be followed by all Centers in diagnosing and treating occupational illnesses and injuries.

a. The occupational health history shall be conducted for the assessment of work-related health problems and shall include total employment and general health histories, with a review of systems and determination of any preexisting conditions to achieve an accurate medical diagnosis.

b. After a health history is taken, an appropriate physical examination is performed with a detailed specific organ or system examination as related to the chief complaint. Laboratory and radiological testing may be used to complement the history and physical examination and to aid in the diagnosis and treatment of the condition.

NOTE: Pre-approval may be required for procedures not routinely performed in the clinic.

c. The Medical Director, or qualified designee when the Medical Director is unavailable, shall

review the care of patients for appropriateness within published clinical practice guidelines.

d. The Medical Director shall document any inconsistencies with a work-related injury or illness and report these to a safety representative for further evaluation of the injury mechanism and circumstances.

e. An assessment of the work place shall be performed by medical and/or safety personnel to enforce injury prevention and implementation of approved reasonable accommodation.

2.4.3.2 All occupational health practitioners shall become familiar with employees' work and the environment in which they work. In order to better understand specific medical issues and cases, it may be necessary for the medical staff to visit the workplace to better understand the mechanism of injury and evaluate safety and ergonomic concerns.

2.5 Immunizations

2.5.1 Policy

2.5.1.1 Maintaining immunity shall be an integral part of NASA's disease prevention and infection control programs to reduce potential health effects related to exposure to vaccine-preventable infectious agents.

NOTE: The number and types of immunizations required per employee will vary based upon exposure risk.

2.5.2 Responsibilities

2.5.2.1 The CHMO shall establish an Agency immunization policy.

2.5.2.2 The DOH shall provide oversight and interim policy, as necessary, to ensure the equitable distribution of vaccine when supplies are limited nationally.

2.5.2.3 The Center Medical Director shall establish immunization policy and procedures and ensuring immunization services are available in such areas as international travel, medical surveillance/job certification, occupational injuries/illnesses, and preventative medicine.

2.5.2.4 The Center Medical Director shall ensure the medication management process is sound, properly documented, and meets NASA Quality Assurance (QA) Program elements and in compliance with the most current Centers for Disease Control and Prevention (CDC) recommendations.

2.5.3 Process Description

2.5.3.1 Employees with a reasonable risk of occupational exposure to vaccine-preventable diseases such as tetanus, Hepatitis A, or B shall be provided appropriate immunizations, have documented immunity, or sign a declination form declining the recommended vaccine administration.

2.5.3.2 Tetanus and diphtheria status shall be reviewed during each patient encounter and immunization given, if appropriate, for all employees with tetanus prone injuries at work and those requiring routine boosters.

2.5.3.3 The patient shall be provided an opportunity to discuss any questions about the immunization procedure prior to vaccine administration.

2.5.3.4 An immunization record shall be maintained for each employee and reviewed as part of each patient encounter. The record shall reflect documented disease and immunization histories as well as

immunizations administered during employment. At each immunization encounter, the record shall be updated.

2.6 Medical Support to Emergency Preparedness Planning

2.6.1 Policy

2.6.1.1 The exact roles and responsibilities of Center OH disciplines shall be determined by the specific needs at each of the NASA Centers and Facilities. In addition to the Center-wide plan, each clinic shall address emergency preparedness as it relates to their own structure and operations.

2.6.2 Responsibilities

2.6.2.1 The CHMO shall provide technical support and policy guidance to the Center Medical and Environmental COTR to effectively negotiate and delineate the roles and responsibilities of NASA OH in relation to the Center-specific emergency preparedness plan.

2.6.2.2 The COTR shall keep the DOH current on any Center specific emergency events or any significant modifications to the plan as they relate to OH roles and responsibilities. The COTR shall serve as an advocate for OH disciplines to ensure their assigned roles and responsibilities are sound, obtain management support as needed, and to keep the lines of communication viable between the stakeholders. In essence, the COTR serves as a liaison between the Center Emergency Operations and the OH team.

2.6.2.3 The Center Medical Director, depending on the extent of medical operations engagement in the Center-wide response plan, shall ensure that the clinic staff is appropriately trained and adequate supplies are at hand.

2.6.3 Process Description

2.6.3.1 The CHMO shall provide guidance documents and contribute ideas to improve the medical response.

2.6.3.2 The COTR shall ensure the following elements are accomplished:

a. The OH roles and responsibilities in the Center-wide plan shall be reasonable and clearly stated;

b. OH disciplines shall be fairly and consistently represented in the planning process and in drills and simulations. Their comments and concerns are incorporated into the plan; and

c. Management support shall be solicited for appropriate funding for supplies, staff training, and skill mix and number.

2.6.3.3 The Center Medical Director shall:

a. Establish procedures to meet the medical expectations of the plan including, but not limited to, skill mix and number, personnel training and drills, equipment, and supplies.

b. Establish measures to safeguard and retrieve medical records in paper or electronic format as per Privacy Act and NASA Records Management requirements.

c. Support other OH disciplines in meeting their respective requirements in disaster management such as supporting the EAP in Critical Incident Stress Management training and debriefing.

2.7 Pandemic Planning

2.7.1 Policy

2.7.1.1 The clinic shall support the Center in formulating their Continuity of Operations Plan (COOP) Emergency Preparedness Plan.

2.7.2 Responsibilities

2.7.2.1 The CHMO is responsible for providing technical support and written policy direction to (OH) personnel in support of Center Emergency Preparedness Plans.

2.7.2.2 The Center Medical Director is authorized to provide expert consultation to the COOP manager and Center management on related public health and medical issues.

2.7.3 Process Description

2.7.3.1 To ensure appropriate action in a pandemic, each Center clinic shall support formulation of a Center-specific COOP plan which should be designed as an addendum to the Center's Emergency Preparedness Plan.

2.7.3.2 Communication with HQ Emergency Management shall be maintained throughout all phases.

2.8 Plan for a Drug-Free Workplace

2.8.1 Policy

2.8.1.1 The overall responsibility for NASA's Plan for a Drug-Free Workplace (DFWP) lies with the OHCM .

2.8.1.2 The OCHMO shall support the DFWP through its Medical Review Officer (MRO) and Employee Assistance Programs (EAP) as required.

2.8.1.3 The OCHMO oversees, administers, and evaluates the Agency-wide MRO function and the EAP, which provides the mandatory referrals when a positive test is reported.

2.8.1.4 The clinic Medical Director, or a designated alternate physician, serves as the designated MRO for each Center. Disputed findings shall be adjudicated and resolved by the Agency MRO when required.

2.8.2 Responsibilities

2.8.2.1 The OHCM shall be responsible for NASA's plan for a DFWP.

2.8.2.2 The CHMO shall support DFWP through its MRO and EAP, as required.

2.8.2.3 The CHMO shall designate an Agency MRO.

2.8.2.4 Each Center shall have a MRO.

2.8.3 Process Description

2.8.3.1 The Center MRO shall receive test results directly from the NASA Shared Services Center designated certifying drug test laboratory. Validity testing is performed by the certifying laboratory according to current regulatory requirements.

2.8.3.2 The MRO shall review the chain of custody documentation and contact the donor for all

positive, substituted, adulterated, or invalid test results consistent with NPR 3792.1, Plan for a Drug-Free Workplace.

2.8.3.3 After confirming the result as negative, the MRO shall report the result to the designated Center representative.

2.8.3.4 All confirmed results other than negative shall be reviewed with the Agency MRO prior to reporting the result to the Center.

2.8.3.5 For all non-negative results, the MRO shall inform the donor of his or her right to request that the split specimen be tested. If requested, the certifying laboratory shall arrange for the "B" specimen bottle to be sent to another laboratory for confirmation testing according to split specimen protocol.

2.8.3.6 When the Center MRO is someone other than the Center Medical Director, the Agency MRO shall approve the person's credentials.

2.9 Physical Examinations

2.9.1 Policy

2.9.1.1 Medical surveillance protocols shall be used at all NASA Centers and Facilities. The Physical Examination Matrix (Appendix C) provides the examination procedure basics of the most routine and specialty examinations performed at NASA Centers and facilities.

NOTE: The six categories of physical examinations provided at NASA clinics are listed in Appendix C, Physical Examination Matrix. Due to the potential for changing requirements of an actual examination protocol, the latest content of agency-provided examinations will be maintained on the OH Web site (www.ohp.nasa.gov) to ensure currency.

2.9.2 Responsibilities

2.9.2.1 The CHMO shall be responsible for establishing policy, providing requirements and oversight, and auditing Center physical examination programs.

2.9.2.2 The DOH shall ensure oversight of Center physical examinations through regular periodic audits.

2.9.2.3 The Center Medical Director shall be responsible for the overall quality of care by all clinic providers. In all situations where the decision regarding medical qualification or certification is unclear, the Center Medical Director, or qualified designee when the Medical Director is unavailable, shall review the clinical information and make the final decision.

2.9.2.4 The evaluating physician shall be responsible for interpreting all physical examination test results and determining their significance. If the examinations are not performed onsite, the Center Medical Director, or qualified designee, when the Medical Director is unavailable, reviews the results before clearance is issued to work in a hazardous environment. The evaluating physician is responsible for the preparation of any required "Health Care Professional's Written Opinion" for the pertinent standard, within the specified timeframe.

2.9.3 Process Description

2.9.3.1 Placement of employees in the various physical examination programs is determined by job category, workplace surveys, and specific exposure events.

2.9.3.2 Special Administrative Examinations and health maintenance examinations are offered according to Agency and Center policies.

2.9.3.3 Typically, workers whose jobs are thought to be associated with exposures to hazards at or above the medical surveillance action level set by the for more than 30 days per year are placed into medical surveillance for that specific hazard.

2.9.3.4 Some programs have specific guidance for placement (e.g., asbestos, organophosphates pesticide workers, hearing conservation, and radiation workers).

2.9.3.5 If insufficient monitoring data or no data is available, individuals shall be placed in medical surveillance based on potential exposures and job title. When this occurs, individuals need to be reassessed as work site monitoring data become available.

2.9.3.6 When an employee is no longer actively exposed to a hazard, it shall be up to the physician's discretion, in consultation with industrial hygiene (IH) and safety staff, whether that employee remains in the medical surveillance program or not.

2.9.3.7 The Center clinics shall meet the protocol requirements for the following job categories:

a. Specific Potentially Hazardous Exposures;

b. Hazardous Environments/Workplace Examinations;

c. Certification Examinations;

d. Flight Activities;

e. Special Administrative Examinations; and

f. Voluntary Health Maintenance Examinations.

2.9.3.8 Physical examinations shall conform to the requirements delineated in the Physical Examination Matrix (Appendix C) and the pertinent Federal regulations.

2.9.3.9 The frequency of the physical examinations varies and includes:

a. Baseline Examinations:

(1) These examinations shall be ideally performed before the employee starts work in a position with a potential for hazardous exposure.

(2) These examinations provide information necessary to determine if the employee is qualified to perform the job. It also provides a baseline against which changes can be compared.

(3) Baseline examinations and certifications shall be performed prior to engaging in any activity that could be hazardous to the employee or other employees working near or adjacent to them or in contact with them.

b. Periodic Examination:

(1) This examination shall be performed periodically during the time that a worker is employed in a job requiring an examination.

(2) The frequency and extent of periodic examinations vary depending on the work being performed, pertinent regulations, findings from previous examinations, the history of exposure, and/or the age and gender of the workers.

c. Variable or Exposure-Determined Examinations:

(1) This examination shall be conducted in response to a specific hazardous exposure incident and shall prompt the examination of all individuals with the suspected exposure, not just those already in the surveillance program.

(2) These examinations may vary significantly from routine medical surveillance protocols, are usually exposure specific, and include biological monitoring tests.

d. Exit/Reassignment Examination:

(1) This examination shall be performed when the worker terminates employment or the job position, or is permanently removed from a position which has a potential for hazardous exposure.

(2) Documentation of the worker's state of health at the termination of employment or exposure is essential for comparison purposes if the worker later develops medical problems that could be attributed to past occupational exposures.

(3) This examination is not required if a periodic examination has occurred within the prior six months.

2.9.3.11 If a physical examination has been conducted within the previous six months and has been duly recorded in the employee's health record, it may, at the discretion of the examining physician, be accepted in whole or in part as the requested medical examination.

2.9.3.12 A physical examination conducted for one purpose shall be valid for any other purpose within the prescribed validity period if that physical contains the proper data. If the examination is deficient in scope, only those tests and procedures necessary to meet the additional requirements shall be performed. The results shall be recorded and appropriate approval provided by the examining physician.

2.9.3.13 A clear determination of "Medically Qualified" (or "Medically Certified") or "Medically Disqualified" (or "Not Medically Certified") shall be made. As appropriate for the type of examination, the limiting factors or restrictions shall be noted so that reasonable accommodation may be considered as required by the Americans With Disabilities Act .

2.9.3.14 If additional tests or other actions are needed for qualification or certification (e.g., failed vision because corrective lenses are not available, additional tests are needed, or a temporary condition exists like a cold or the flu), the employee shall be placed on modified duty if the condition represents a potentially immediate hazard to the employee, fellow employees, or the success of the project/mission. A follow-up appointment shall be made to either qualify or disqualify the employee.

2.9.3.15 Where no written standard has been established for a function, the provider shall use best medical judgment to determine whether a disqualifying impairment exists. The Medical Director is responsible for review and final recommended work status in these cases.

2.9.3.16 Appeal, redress, second opinions, and challenged decisions shall be handled at the lowest level of authority at the Center.

2.9.3.17 When a Standard Written Medical Opinion is required by regulation, except for lead, bloodborne pathogens, and asbestos where the Federal Regulation (29 CFR 1910) shall be consulted, the following format shall be followed:

a. A medical condition has [has not] been detected that would place the employee at an increased risk of material impairment of the employee's health from [Specific Hazard] _____

exposure-related disease or injury;

b. There are no limitations on the employee or on the use of personal protective equipment, including respirators [or recommended limitations on the employee or on the use of personal protective equipment are: _____];

c. The employee has been informed of the results of the medical examination and of any medical conditions related to [specific hazard] ____- exposure that would require further explanation, evaluation, or treatment;

d. The employee has been informed of the results of the medical examination and of any other medical conditions that require further evaluation or treatment; and

e. The employee _____ is certified for work as _____ without limitations [or certified to work with the following job or Personal Protective Equipment (PPE) limitations: _____].

Health Care Provider Name:_____
Signature:_____ Date: _____

2.9.3.18 The employer shall provide a copy of the written opinion to the affected employee. Unless otherwise noted, the Standard Written Medical Opinion shall be sent within 14 days of completion of physical examination and receipt of laboratory studies.

2.10 Emergency Medical Services

2.10.1 Introduction

2.10.1.1 Initial clinic response in an emergency situation shall include the use of an Automatic External Defibrillator (AED) if indicated in order to stabilize the patient until the emergency transport to appropriate medical facilities arrives.

2.10.1.2 NASA clinics are not designated emergency facilities and do not provide emergency medical care as part of their regular scope of services. After stabilization, Emergency Medical Services (EMS) should always transport emergent patients to an appropriate emergency facility, never to a NASA clinic.

2.10.3 Responsibilities

2.10.3.1 The CHMO shall provide policy guidance and technical support to ensure that all NASA Centers and Facilities have emergency medical response capability that is consistent with published guidelines.

2.10.3.2 The DOH shall ensure appropriate occupational health response in an emergency medical situation through regular periodic audits.

2.10.3.3 The Center Medical Director shall provide oversight of all NASA and NASA-contracted EMS providers. This oversight involves administrative and medical review of all runs, provision of standing orders, and ensuring that the EMS are adequately staffed and equipped and comply with all NASA, state, and local EMS requirements.

2.10.3.4 The Center Medical Director shall collaborate with Center safety and security leadership to establish a First Responder Program to provide a first response that includes AED capability according to the Center-wide AED Policy.

2.10.4 Process Description

2.10.4.1 The EMS for each Center shall comply with the following minimal requirements:

a. EMS shall comply with all state and regional regulations for ambulance and EMS requirements;

b. Advanced Life Support capability shall be required with a response time within eight (8) minutes, at least 90 percent of the time;

c. First responders with AED capability shall have a response time of four (4) minutes or less for most Center personnel; and

d. The EMS provider at each NASA Center and Facility shall participate in the Center-wide Emergency Response Plan, under the direction of the on-scene incident commander. EMS providers also shall participate in emergency drills and exercises to enable full understanding of their responsibilities within the Emergency Response Plan.

2.11 Automated External Defibrillator (AED) Program

2.11.1 Policy

2.11.1.1 It is NASA policy that all Centers shall have an AED program with written policy.

2.11.2 Responsibilities

2.11.2.1 The CHMO shall establish the NASA AED policy and program requirements.

2.11.2.2 The CHMO shall audit the Center's AED programs.

2.11.2.3 The Center Medical Director shall provide oversight and medical direction for the Center AED program.

2.11.3 Process Description

2.11.3.1 A formal assessment of the Center shall be completed to determine an appropriate number of AEDs needed throughout the Center and their locations based on population and demographics, layout of facilities, and level of risk in the facility environment. AEDs should be in locations that allow for an optimal response time.

2.11.3.2 The Center shall have a written Center-wide AED program that includes roles and responsibilities, medical equipment and supplies, operational protocols, equipment maintenance, responder training and drill requirements, and a quality assurance plan.

2.11.3.3 The Center AED program shall be integrated with the Center Emergency Response Plan or as an appendix to that plan.

2.11.3.4 The written Center AED program plan shall be reviewed at least annually.

2.12 Bloodborne Pathogens

2.12.1 Policy

2.12.1.1 All NASA Centers shall develop a Center-specific Bloodborne Pathogens (BBP) plan that addresses the requirements of the BBP Standard.

2.12.1.3 Center plans may differ based on additional state and local requirements.

2.12.1.4 The BBP plan must be acceptable to CHMO and contain the primary requirements of the OSHA BBP Standard, 29 CFR 1910.1030, Bloodborne Pathogens.

2.12.2 Responsibilities

2.12.2.1 The CHMO shall provide guidance and technical support for the development and implementation of the Center-wide BBP plan.

2.12.2.2 The DOH ensures Center occupational health programs have current BBP plans through regular periodic audits.

2.12.2.3 The COTR shall require medical personnel to establish a written Center-wide BBP plan that identifies at-risk workers (those with reasonable risk of exposure). The COTR shall ensure that the Center operations are in compliance with the plan's requirements and the plan addresses the following issues:

a. A culture of open communication among Directorates and disciplines such as medical, IH, facilities operations, training coordinators, supervisors, and safety personnel;

b. Active participation in both the development and implementation phases is essential;

c. Consistent documentation and record keeping of all the requirements such as training, medical surveillance and immunization, biohazardous waste, and post exposure prophylaxis; and

d. Enforcement of medical confidentiality and security of health information as per Privacy Act requirements.

2.12.2.4 The Center Medical Director shall establish policies and procedures to ensure compliance with the plan and that treatment is available for all employees in the event of an actual exposure in compliance with the OSHA BBP Standard. This may include but is not limited to:

a. Providing oversight for the content and/or delivery of related training classes;

b. Provision and documentation of Hepatitis B vaccine to the at-risk employees free of charge;

c. Documentation of declination of offer to vaccinate and the process by which the employee can obtain the vaccine at a later date;

d. Post exposure prophylaxis plan;

e. Medical confidentiality; and

f. Issuing the medical opinion letter in compliance with the BBP Standard.

2.12.2.5 The Medical Director and the COTR shall jointly establish a process by which they can address any deviations from the Center Plan and review the plan annually in collaboration with the affected Directorates and disciplines.

2.12.2.6 Center OH personnel shall be a resource and assist in writing the Center BBP plan.

2.12.3 Process Description

2.12.3.1 The CHMO shall communicate guidance documents via the NASA OH Web site and provide oversight and evaluation of the BBP plan during the review process.

2.12.3.2 The COTR shall actively participate in the development and implementation of the written Center-wide Bloodborne Pathogen/Exposure Control Plan(s) and ensure collaboration between the

disciplines, especially when more than one contractor or tenant organization is involved. The COTR shall also advocate for a work environment conducive to the success and consistent application of the plan.

2.12.3.3 The plan must address methods of compliance in universal precautions, engineering and work practice controls, PPE, housekeeping, and biohazardous waste processing.

2.12.3.4 Medical surveillance and evaluation shall include hepatitis B immunization and declination, post exposure evaluation and treatment, necessary followup, and issuance of the written medical opinion letter.

2.12.3.5 The Center Medical Director shall specify in the plan the means to protect and train the at-risk employees.

2.12.3.6 The plan must be made accessible to the employees and should be in line with their respective employer's plan.

2.13 Infection Control

2.13.1 Policy

2.13.1.1 A systematic, coordinated, and continuous infection control program shall be instituted at all NASA Centers that focus on surveillance, prevention, and control of infections.

2.13.1.2 Center programs shall encompass activities at the direct patient care level and at the patient care support level to reduce risks of nosocomial/clinic-acquired infections in patients.

2.13.1.3 Activities shall also be designed to reduce risks of transmission of infections among civil service personnel, contractors, health care personnel, students, and visitors.

2.13.1.4 Particular focus for infection control shall be placed on direct patient care practices, ancillary services, such as laboratory, radiology, and rehabilitation, support services, such as linen supply, and fitness centers.

2.13.1.5 OH personnel shall use the checklist from the OHP Web site to facilitate implementation and assessment of infection control. The checklist is on the Policies page of the NASA OH Web site (www.ohp.nasa.gov) under Documents, Guidelines, and Checklists.

2.13.2 Responsibilities

2.13.2.1 CHMO shall establish infection control program policy and oversight and evaluation of OH infection control programs.

2.13.2.2 The DOH ensures Center has current infection control plans through regular, periodic audits.

2.13.2.3 Center Chief Medical Officers/Medical Directors shall ensure that an infection control program is established and maintained at their Centers. These officials are responsible for ensuring that adequate resources, including time and training, are available to support the program.

2.13.2.4 The infection control program shall be the responsibility of at least one person designated by the Center Chief Medical Officer/Medical Director. That individual is known as the Infection Control Officer (ICO) and is responsible for overseeing the program. Specific knowledge and training relevant to infection control will enable the designated person to keep up to date on regulatory changes.

2.13.3 Process Description

2.13.3.1 The designated ICO shall establish, maintain, and oversee and Infection Control Plan and an Infection Control Committee (ICC) consisting of a physician, a nurse, and any additional staff necessary to manage the program effectively. The ICC should coordinate all activities related to the surveillance, prevention, and control of nosocomial infections.

2.13.3.2 The Center ICO and/or ICC shall develop, implement, and maintain a plan that includes program goals, surveillance activities, infection control guidelines, infection control training, nosocomial/clinic-acquired infections reporting process, program assessment, performance improvement procedures, and program documentation.

2.13.3.3 The plan shall be reviewed based on the proceeding year's infection control data by the ICO/ICC. The review should include infectious waste disposal, shelf life of all stored sterile items, reprocessing of non-disposable items, housekeeping contract, linen services, radiology, and laboratory services.

2.13.3.4 The infection control guidelines and practices address patient care issues such as hand-washing practices, approved antiseptics and disinfectants, sterilization of equipment and disinfecting the clinic, laundry, housekeeping, ventilation, and environmental sampling. There shall be a medical surveillance program for the health care personnel, including immunizations, post-exposure protocols and work restrictions/accommodations. The Center Bloodborne Exposure Control Plan and a tuberculosis prevention and control plan are also included as part of the guidelines and practices. The infection control guidelines and practices must be reviewed and updated every three (3) years by the ICO/ICC.

2.13.3.5 Infection control issues and data, including infections and communicable diseases, immunization status of health care personnel and tuberculosis skin testing conversion data, shall be reviewed and summarized on a regular basis by the ICO or ICC to determine if trends are being formed. Appropriate action must be taken on all infection control issues or problems and a process for follow-up established to ensure effectiveness of the corrective action.

2.13.3.6 To ensure compliance with infection control standards, the ICO and/or the ICC shall conduct facility inspections at least annually.

2.13.3.7 The ICO shall ensure that all health care personnel and facilities comply with applicable Federal, state, and local regulations, including notification of the public health agency when patients or health care personnel are treated for infectious or communicable disease.

2.13.3.8 The training of health care personnel is required by Federal (OSHA) regulations. For infection control, the training shall include the following:

a. Newly assigned health care personnel shall receive infection control training within ten days of placement in clinical environment;

b. Health care personnel shall receive infection control training, including OSHA BBP, universal precautions and PPE, annually;

c. Health care personnel shall receive training when significant regulatory changes occur; and

d. Health care personnel providing direct care to patients shall receive continuing education on patient care practices to minimize the risk of nosocomial-acquired infections.

2.13.3.9 Personnel shall have copies of training materials, general, and infection control reference materials available to them. All training and continuing education records must be kept in the health care personnel records in accordance with NASA records management guidelines.

2.14 Medical Record Management

2.14.1 Policy

2.14.1.1 All NASA Centers shall adhere to the requirements for Medical Record Management established in this section.

2.14.2 Responsibilities

2.14.2.1 The CHMO shall establish medical information management policy and evaluate the Centers medical information management policy and procedures.

2.14.2.2 The DOH shall periodically, through the regular audit process, conduct an audit of Center's medical records management policies and procedures, ensuring the Electronic Health Record System (EHRS) meets Privacy Act and NASA records management requirements.

2.14.2.3 The OH COTR is responsible for ensuring that the clinic has proper resources and systems in place to meet the Agency's requirement for management of medical information and record retention.

2.14.2.4 The Center Medical Director shall ensure the clinic has a medical information management policy that specifically addresses medical recordkeeping documentation, access, release of records, retention, privacy, confidentiality, and data integrity.

2.14.2.5 Center clinical personnel shall maintain accurate and complete patient medical records and ensuring the security and confidentiality of those records.

2.14.3 Process Description

2.14.3.1 Each Center shall use the designated Agency EHRS, once it is implemented at their Center in accordance with NASA records management requirements.

2.14.3.2 An individual medical record shall be established and maintained beginning with the first patient encounter.

2.14.3.3 The medical record documentation shall include sufficient information to identify the patient, patient medical history, reason for visit, subjective and objective findings, assessment, and plan written in the Subjective Objective Assessment Plan format. In addition, the medical record may include:

a. Patient demographics;

b. History and medical questionnaires;

c. Work-related injury and illness reports;

d. Environmental hazards or conditions;

e. Occupational exposures and incidents;

f. Summary Sheet;

g. Consultation reports;

h. Signed informed consent;

i. Laboratory test and x-ray results;

j. Immunizations;

k. Medication(s) provided or prescribed;

l. Allergies; and

m. Referrals to community healthcare providers.

2.14.3.4 Medical records shall be maintained in accordance with all Federal and state laws or regulations and the NASA requirements as applicable, including, but not limited to:

a. The Privacy Act of 1974;

b. Health Information Portability and Accountability Act ;

c. Occupational Safety and Health Administration (OSHA);

d. NPR 1441.1, NASA Record Retention Schedules; and

e. NASA Medical Quality Assurance Program.

2.14.3.5 The Center shall have medical record policy and procedures addressing access to medical records, release of records, copying of records, and privacy and confidentiality in compliance with Federal and state laws and regulations.

2.14.3.6 The Center shall have a policy on managing sensitive health information per Privacy Act requirements. The policy shall address the separate storage of those records and/or coding to preclude direct identification of the patient. Sensitive health information includes mental health, chemical dependency, sexually transmitted diseases, and drug and alcohol test results.

2.15 Shift Work and Balancing Work-Rest Cycles

2.15.1 Policy

2.15.1.1 It is NASA policy that consideration of the potentially detrimental impacts of unusual shifts and prolonged work-times be given a high priority to prevent worker psychological and physiological stress and undesirable outcomes. Safe work practices that minimize human error factors, especially fatigue, require safe work-rest cycles and shift scheduling. Work-rest cycles shall take into consideration and make proper allowances for the work environment, including temperature extremes. The processes presented below are provided to ensure safe work practices and mission success.

2.15.1.2 The criteria are provided for Critical and Non-Critical positions as follows:

a. A Critical Position is one in which the worker's job performance can directly impact ground safety, flight safety, or mission success. This may include, but is not limited to, workers who:

(1) Deal directly with flight hardware, software, or ground support equipment;

(2) Have authority to make decisions regarding flight hardware or software processing;

(3) Are involved in launch and landing activities;

(4) Work in ground systems with physical or functional interface with flight systems;

(5) Work with hazardous sequences or procedures; and

(6) Work on systems with minimal or no check and balance related to employee decisions or actions.

NOTE: Personnel who are in Critical roles on a part-time basis will be considered to be in a Critical Position on a full-time basis for purposes of work-rest cycle limitations.

b. All other positions are considered to be Non-Critical.

2.15.2 Responsibilities

2.15.2.1 Center Directors and Senior Managers shall ensure that policies regarding work-rest cycles, implementation of work-rest cycles, maximum work limits, and shift schedules as required for routine and extended or emergency work scenarios are adhered to. These policies shall also establish those positions designated as Critical for each Center or Facility.

2.15.2.2 The CHMO shall issue relevant policy and directives and provides supporting advocacy and resources.

2.15.2.3 Center OH staff shall provide assistance in policy development and professional consultation to work managers and supervisors regarding requirements for standard and prolonged work schedules and work excesses.

2.15.2.4 Managers and supervisors shall ensure that all duty hours are recorded and counted toward the maximum work periods identified below. They shall also report any work-rest cycles that are not within the established policies to the designated management level for risk assessment and approval of deviations, given the current work requirements. Work time data must be available for review.

2.15.2.5 Center EH Managers assure that potential exposures are appropriately evaluated and that Occupational Exposure Limits (OEL) are adjusted as necessary from the 8-hour time-weighted average to reflect actual conditions and work shifts.

2.15.3 Process Description

2.15.3.1 For Non-Critical Positions, employees shall not work in excess of the following maximum work times:

a. 12 consecutive hours (16 consecutive hours in emergency situations with approval);

b. 60 hours during a seven (7) day work week;

c. Seven (7) consecutive days without at least one (1) full day off;

d. 240 hours during a four (4) week period; and

e. 2500 hours during a rolling 12 month period.

2.15.3.2 Deviations from these maximum work times require approval by a designated supervisor.

2.15.3.3 For Critical Positions, employees shall not work in excess of the following MWTs:

a. 12 consecutive hours (16 consecutive hours in emergency situations with approval by a supervisor capable of evaluating the human factors risk level for the Critical role. Only during a Center or Program Declared Emergency may 16 consecutive hours be exceeded with high level of designated approval);

b. 60 hours during a 7 day work week*;

c. Seven (7) consecutive days without at least 1 full day off*(deviations may be pre-approved at a

high level for up to 18 consecutive days with 2 full days off required after the extension period);

d. 240 hours during a 4 week period*; and

e. 2500 hours during a rolling 12 month period*.

NOTE: The asterisks (*) denotes pre-approval is required for deviations by a designated supervisor after consideration of human factors safety issues for the Critical Position.

2.15.3.4 Overtime may be required because of a problem during operation or because of an extended work process. In either case, overtime shall not exceed the stated guidelines.

2.15.3.5 For Center or Program Declared Emergencies, maximum work times shall only be exceeded with approval at the Deputy Center Director level or equivalent designee. Each Center should have the capability to cover unexpected absences satisfactorily without having individuals work more than 12 hours per day.

2.15.3.6 Emergency or extremely unusual circumstances can require work performance essentially at endurance capacity. This shall be invoked only for life-threatening emergencies, natural disasters, mass casualty accidents, or war.

2.15.3.7 The general safety record of the Center or Facility should be satisfactory, without significant incidents related to prolonged work shifts, rotating shifts, or insufficient off duty time.

2.15.3.8 Workers performing prolonged routine shifts shall receive training related to adequate sleep times between shifts.

2.15.3.9 The calendar year, the week, and the calendar day (which changes at midnight) shall be used for work time evaluation and maintenance of accurate time records.

2.15.3.10 Under no circumstances shall an employee be required to work such that there is not at least eight (8) hours off duty between shifts. A minimum of ten (10) hours off duty is preferred and 12 hours or more is optimal to accommodate employee commute time and domestic and sleep needs.

2.15.3.11 When the 8-hour period is shifted within the 24-hour day-night cycle (shift work), compensatory time must be allowed for circadian rhythms to adapt. Forward rotating shifts, from day to evening to night, rather than counter to it are easier for human adaption.

2.15.3.12 The traditional "standard" 5-day, 8-hour shift is becoming frequently replaced with consecutive 10 or 12-hour shifts, compensated to the worker by more time/days off.

The basic 12 hour/day schedule shall be "2-on, 2-off," "3-on, 3 off," or "4-on, 4-off." Three consecutive 12-hour shifts are optimal. Working more than 4 consecutive 12-hour shifts is associated with excessive fatigue and may result in significant impact on performance of duties, mission, and safety.

2.15.3.13 Time zone changes alter or shift natural bodily rhythms and require considerable time to reach new equilibriums as evidenced in the well-known "jet lag" syndrome. Consideration shall be given to allowing for adaptation times to avoid critical decisions in a chronobiologically impaired state. Circadian rhythms affect physical ability, mental alertness, decisionmaking, and overall well-being that can predispose to injury and adversely impact work capacity, quality, and safety.

2.15.3.14 To minimize worker stress and fatigue related to time factors, the following procedures shall be followed:

a. Define the "standard" work period for all operations and tasks, including method of shift rotation if required, as well as breaks and required rest cycles;

b. Clarify responsibilities, work expectations, and desired outcomes for any process or decision;

c. Minimize negative consequences of shifting work times by doing the following:

(1) Having an employee select preferred shifts consistent with mission needs.

(2) Considering individual circadian rhythms to insure adequate work and sleep-rest cycles.

(3) Allowing adequate time for adaptation and recovery from old to new shift or time zone.

(4) Knowing the "criticality" of the work to evaluate risk of physiological and psychological consequences of chronobiological stress.

d. Define "critical job categories" and assure that employees assigned to these categories understand the full implications of the work schedule and rest cycles. Educate employees about the importance of adequate rest for safe job performance;

e. Define "extended" work periods for job categories;

f. Allow "deviations" from standard maximum work requirements by the following criteria:

(1) Need, urgency, and benefit.

(2) Risk assessment.

(3) Prior anticipation of extended work schedules or deviations from guidelines shall be noted in position descriptions; and

g. Provide an impartial council (e.g., Center Health and Medical Technical Authority (HMTA) or the Agency DASHO) to hear and resolve disagreements related to work schedules, shift work, and rest cycles.

2.15.3.15 Maintain accurate records of work schedules and hours actually worked.

2.15.3.16 Adjustment and application of OEL's to unusual shifts shall be determined by a qualified industrial hygienist using the Brief and Scala model or other acceptable models as described in Patty's Industrial Hygiene and Toxicology.

2.16 International Travel or Assignment

2.16.1 Policy

2.16.1.1 Health services shall be offered to NASA employees on international travel or assignment in order to reduce the risk of illness or injury, prevent loss of productivity, and safeguard the health of NASA employees.

2.16.1.2 It is the traveler's responsibility to contact the NASA clinics four to six (4-6) weeks prior to scheduled travel departure to allow adequate time for vaccines if needed.

2.16.2 Responsibilities

2.16.2.1 The CHMO shall establish international travel health policy.

2.16.2.2 The DOH ensures proper execution of clinic travel policy through regular, periodic audits.

2.16.2.3 The CHMO shall maintain a contract to provide international medical evacuation to NASA civil service employee traveling internationally on official NASA-related business.

2.16.2.4 International travel services provided by occupational medical clinics shall be consistent with the current CDC Health Information for International Travel "Yellow Book."

2.16.2.5 Civil service international travelers are responsible for seeking travel medicine services and destination-specific travel information prior to going on foreign travel. They are responsible for securing compensation claims information and personal access travel cards.

2.16.2.6 Contractors are responsible for establishing their medical clearance policies and providing employees' emergency medical services and evacuation while on international travel in accordance with their contract as prescribed in NASA FAR Supplement, Clause 1852.242-78.

2.16.3 Process Description

2.16.3.1 NASA OM clinic shall establish policy and procedures for providing travel medicine services for personnel on international travel or assignment.

2.16.3.2 NASA Occupational Medicine clinics shall have the CDC publications and information, including Health Information for International Travel (Yellow Book), Morbidity and Mortality Weekly Report, Weekly Summary of Countries with Areas Infected with Disease Requiring Quarantine, Advisory Memoranda, and Biweekly Summary of Health Information for International Travel (Blue Sheet) available for their healthcare providers.

2.16.3.3 International travel services to be offered shall include the following elements:

a. General pre-travel briefing and information;

b. General health risk assessment (An assessment of the employee's potential risk for illness considers any underlying medical problems, immunization history, allergies, current medications, previous travel, and travel destination.);

c. Immunizations;

d. Traveler's diarrhea information and advice;

e. Malaria risk assessment and advice, if appropriate;

f. Air travel and health information (including "jet lag" advice);

g. Destination safety information (e.g., protective and preventative health advice, as appropriate to the destination risks);

h. Travel kits, in accordance with NASA Center policy;

i. Pre-travel evaluation of any environmental health issues/concerns, identification of PPE or training needs;

j. Medical surveillance or job-certification examinations; and

k. Other sources of health-related information including:

(1) U.S. Embassy or consulate location and telephone numbers.

(2) Hospital/clinic locations and telephone numbers.

(3) Procedures to access emergency assistance.

(4) Insurance advice.

(5) International personal access travel cards and information.

(6) Post travel followup scheduling and advice as required.

2.16.3.4 Centers are authorized to discuss and offer international travelers the CDC required and recommended immunizations for the country of destination.

2.16.3.5 Depending on the destination, pre-travel confirmation of the Tuberculosis (TB) intra-dermal skin test status with Purified Protein Derivative may be required. Centers shall follow the CDC guidance on followup for positive results and post-travel evaluation of skin test status for those who traveled to areas where there are high incidences of TB.

2.16.3.6 Centers are authorized to assemble and issue travel medical kits to NASA employees traveling on official NASA business. The instructions and contents of the medical kits shall be determined by the Center. A summary of the traveler's past and any current medical history, including allergies, medications, and special diet shall be provided to the traveler in accordance with privacy and confidentiality requirements.

2.16.3.7 Center Occupational Medicine clinics shall provide a SOS Access Cards to each civil service employee traveling internationally on official NASA business. Medical services for non-NASA-related travel are the responsibility of the employee.

2.16.3.8 NASA contractors are responsible for facilitating arrangements with a medical service provider for their employees, in accordance with their contract. Responsibility for international emergency medical services remains with the contractor and contracted employee, as specified in NASA FAR Supplement, Clause 1852.242-78.

2.16.3.9 NASA civil service employees who suffer a traumatic injury or occupational illness while in the performance of their official duties may be eligible for compensation benefits under the Federal Employees' Compensation Act. The mishap must be reported in accordance with NPR 8621.1, NASA Procedural Requirements for Mishap Reporting, Investigating, and Recordkeeping. Medical assistance shall be obtained through SOS International.

Chapter 3. Primary Prevention and Health Promotion

3.1 Primary Prevention and Health Promotion

3.1.1 Policy

3.1.1.1 It is the policy of NASA Occupational Health (OH) to promote a healthful work environment with commitment to the health and productivity of its workforce founded on a programmatic approach that is designed to increase awareness through education, foster lifestyle and behavioral modification, and create a supportive work environment.

3.1.2 Responsibilities

3.1.2.1 The Chief Health and Medical Officer (CHMO) shall establish policy requirements for primary prevention programs.

3.1.2.2 The Director of Occupational Health (DOH) shall develop a primary preventive strategy for the Agency and ensure implementation through the regular, periodic audit process.

3.1.2.3 The Center OH Contracting Officer Technical Representative (COTR) shall support the implementation of the annual health promotion plan.

3.1.2.4 The Center Medical Director or designees shall implement the annual health promotion plan.

3.1.2.5 The COTR and Medical Director shall designate a representative to serve on the Agency Primary Prevention and Health Promotion Team.

3.1.3 Process Description

3.1.3.1 The CHMO shall provide direction and guidance towards standardization of majority of health promotion and wellness activities across the Agency based on the following measures:

a. Establish an Agency-wide Primary Prevention and Health Promotion Team composed of center representatives with the charter to standardize health education programs.

b. Chair periodic Video Teleconferencing System (ViTS) meetings with the team for the purpose of educational presentations on emerging issues, discussion of new and innovative ideas, development of relevant policies and procedures, and evaluation of the existing programs and campaigns;

c. Identify and coordinate particular campaigns and initiatives for Agency-wide dissemination;

d. Develop a section or sections on the NASA OH Web site as an informational portal for health resources;

e. Ensure availability of printed health education material in support of identified campaigns and initiatives;

f. Support all health-related discipline specific efforts with printed health education material and periodic focused efforts;

g. Collaborate with leading health resource organizations and other community and national organizations, as appropriate; and

h. Identify evaluation strategies to assess the effectiveness of the health education programs.

3.1.3.2 The Center OH COTR shall support the implementation of the Agency primary prevention plan and associated activities at their respective Center.

3.1.3.3 The Center Medical Director or designee shall assess the feasibility of creating a Center specific primary prevention and health promotion team to address issues in a collaborative and systematic manner in order to:

a. Ensure that the Center's health promotion plan is relevant to their population, the Center shall complete an annual health promotion needs assessment, and

b. To evaluate the impact of the overall primary prevention and health promotion program. Both short- and long-term goals should be established in the planning stages.

3.1.3.4 The Center Medical Director or designee shall gather program evaluation data and report to Office of the Chief Health and Medical Officer (OCHMO) annually upon request.

3.2 Primary Prevention

3.2.1 Introduction

3.2.1.1 Primary prevention services are the foundation of NASA OH. These services shall encompass both health promotion and health protection directed toward enhancing employee well-being and moving toward a state of optimal health, as well as reducing health risks. Health promotion efforts are designed to increase health knowledge and support employee behavior change related to health and safety practices in the workplace and at home. Health protection measures are designed to eliminate or reduce the risk of disease in order to prevent the development of an illness or injury.

3.2.2 Responsibilities

3.2.2.1 The CHMO shall provide guidance and policy for the Agency primary prevention program.

3.2.2.2 The DOH shall assess and review primary prevention and health promotion programs through a regular periodic audit process.

3.2.2.3 The OH COTR shall advocate for adequate resources in support of primary prevention programs.

3.2.2.4 The Center Medical Director shall ensure primary prevention services are planned, implemented, and evaluated.

3.2.3 Process Description

3.2.3.1 The Center Director shall ensure the planning and implementation of worksite primary prevention programs, services, and policies designed to enhance employee well-being and optimal health, as well as to reduce health risks.

3.2.3.2 The Centers shall offer primary prevention/health promotion programs, such as nutrition, fitness, exercise, and health motivation, and targeted disease prevention programs, such as injury prevention, health risk assessment, smoking cessation, weight control, stress management, and seat belt use.

3.2.3.3 The Centers shall evaluate the effectiveness of overall primary prevention program efforts.

3.3 Fitness Centers

3.3.1 Policy

3.3.1.1 NASA Centers shall establish and maintain on-site Fitness Centers to encourage employee physical activity. Federal agencies are authorized to offer employee health services "to promote and maintain physical and mental fitness and to help prevent illness and disease," including health services and intervention programs such as exercise and weight control. Fitness programs encompass activities such as organized walking events, aerobic exercise classes, weight lifting instruction, stretching classes, fun runs, lectures on safe participation, and fitness assessments.

3.3.1.2 The OH Program Fitness Center Policy shall be based on Office of Personnel Management's (OPM) authority and incorporates industry standards (as recommended by OPM) provided by the American College of Sports Medicine (ACSM) for staffing, facility design, equipment selection and maintenance, and safety. The latest edition of ACSM standards shall be used for reference when developing and implementing a Center Fitness Program.

3.3.1.3 The Centers shall use the latest version of The U.S. Department of Health and Human Services Physical Activity Guidelines with the idea that "regular physical activity over months and years can produce long-term health benefits." The guidelines are useful in developing a Center Fitness Program.

3.3.2 Fitness Center Features

3.3.2.1 An on-site Fitness Center shall, at a minimum, consist of: separate male and female shower facilities and locker rooms; an exercise room for stretching and classes; a designated walking/jogging trail; and a variety of indoor exercise equipment such as treadmills, stair climbers, strength training machines, and free weights. Fitness Center equipment shall be of commercial quality and stand up well to wear and tear and heavy use.

3.3.2.2 Message or bulletin boards shall be used for communication and posting of relevant information about the Fitness Center or items of particular interest to Fitness Center users.

3.3.2.3 Interior physical activity areas shall have a working clock, a chart of target heart rates, and a chart depicting ratings of perceived exertion to enable users to monitor their activity.

3.3.2.4 A first-aid kit containing bandages, gloves, and a pocket mask shall be maintained and available to the Fitness Center staff for emergency use.

3.3.2.5 An Automatic External Defibrillator (AED) shall be readily available in or near the Fitness Center.

3.3.2.6 A hard-wired system with a large visible emergency button shall be available to call medical, first aid, and security. The emergency system shall include a prominently displayed sign as to its location and additional instructions. If the emergency system is inoperable or only partly functional, a sign(s) shall be posted at the Fitness Center to notify users of the status and the alternative methods to be used to summon emergency assistance. At a minimum, a sign shall be posted with this information immediately next to any device that is not fully functional. Any emergency system that is not fully functional shall be corrected as soon as possible.

3.3.2.7 OPM regulations allow for Federal agencies that do not maintain an on-site Fitness Center to authorize payment for employee use of an external Fitness Center. An external Fitness Center, the use of which is paid for by NASA, shall contain the same or comparable program components as required for a NASA Fitness Center, feature the same or comparable equipment, and utilize the same

or comparable equipment maintenance standards.

3.3.3 Fitness Center Program Components

3.3.3.1 Center Fitness Programs shall be written, maintained on-site, and periodically revised when conditions warrant. The program shall, at a minimum, include the following:

a. A statement of goals and objectives;

b. Safe, appropriate, legal, and ethical program requirements;

c. A description or list of qualified personnel to run the Fitness Center and a list of their credentials;

d. Periodic surveys of employee health needs and interests;

e. Identification of other resources, entities, agencies that are part of the program;

f. Integration of and coordination with other Agency functions or related programs (e.g., Medical, Safety, Employee Assistance);

g. The strategies used to communicate with potential and current Fitness Center users;

h. The method employed for Fitness Center operation;

i. A list and description of equipment at the Fitness Center;

j. User screening and orientation procedures;

k. Equipment repair logs;

l. Emergency response procedures; and

m. An evaluation process to be used to help in revising and improving the Fitness Center.

3.3.3.2 Fitness and health-care professionals employed at a Fitness Center who interact with Fitness Center users on a regular basis shall possess the necessary competencies for fulfilling their roles and responsibilities, normally involving a combination of education, training, certification, and hands-on experience. The fitness and health-care professionals who serve in counseling, instructional, and physical activity supervision roles for the facility shall have an appropriate level of related professional education, work experience, and/or certification.

3.3.4 Fitness Center Equipment Maintenance

3.3.4.1 Fitness Center equipment shall be maintained routinely to reduce the number of repairs and extend the life of the machinery. A visual inspection shall be conducted by fitness facility staff at least weekly to identify any broken or unsafe equipment. Broken or unsafe equipment shall be removed or prominently tagged to prevent client use. Preventive maintenance programs for fitness equipment shall include documentation describing the work performed, the date the work was performed, and the name of the individual or entity that performed the work. Records shall be kept in a log and made part of the Fitness Center's written program.

3.3.4.2 Clean towels, anti-bacterial cleaning solution, or other similar supplies shall be available to users to wipe off equipment. Users shall be encouraged to wash hands before and after workouts with soap and water or hand sanitizer and to keep skin lesions covered with a clean dry dressing.

3.3.4.3 Non-slip floors shall be the standard for all shower and locker room facilities. Floors in the showers and locker rooms shall be cleaned periodically.

3.3.4.4 Sinks, toilets, and urinals shall be cleaned and disinfected periodically.

3.3.4.5 Ventilation grills and vents in all areas of the Fitness Center shall be cleaned in accordance with Center practice.

3.3.4.6 Carpeted floors shall be vacuumed, and wooden, rubberized, and other hard floors shall be swept or dry mopped in accordance with Center policy.

3.3.4.7 Fitness Centers with saunas, steam rooms, or whirlpools shall ensure that the areas are maintained and that warning systems to notify users of any unacceptable risk and changes in temperature exist and are in working order.

3.3.5 Responsibilities

3.3.5.1 Fitness Center personnel shall include a Fitness Center Manager/Fitness Director, Federal Civil Servant COTR, Fitness Professional, or a combination thereof.

3.3.5.2 Fitness Center personnel involved in management or delivery of exercise programs to users shall be responsible for their own professional training and having the required experience as prescribed by the ACSM to ensure that users are provided with safe, effective programs and services. All personnel responsible for daily operation of the Fitness Center shall at a minimum possess and maintain Cardiopulmonary Resuscitation /Basic Life Support certification and are trained in the Bloodborne Pathogen standard.

3.3.5.3 The Fitness Center Manager or COTR shall be responsible for the overall management of the Fitness Center. The Manager or COTR shall also be responsible for fitness environment safety, emergency procedures, and ensuring that facility users and staff have received a health screening.

3.3.5.4 The Fitness Director shall possess a degree in exercise science or other health-related field with at least one year of supervisory experience in the fitness industry and shall be responsible for the Center Fitness Program design, for ensuring training is conducted, and staff supervision and accreditation. The Fitness Director shall manage exercise and activity programs. The Fitness Director shall be professionally certified at an advanced level by a nationally recognized health or fitness organization comparable to the ACSM health fitness instructor certification.

3.3.5.5 The Fitness Professional shall have a degree in exercise science or other health/fitness-related field. A professional certification from a nationally recognized health/fitness organization (comparable to ACSM exercise leader certification) is preferred. The Fitness Professional shall provide instruction to clients in safe and healthful exercise skills.

3.3.5.6 Fitness Centers that provide services in allied health fields such as nutrition or physical therapy shall employ providers who are duly certified, licensed, or registered within their state as required by law.

3.3.6 Process Description

3.3.6.1 Fitness Centers shall conduct a screening of new users to identify those at risk for a cardiovascular incident while exercising. At a minimum, new user screenings shall be conducted using such tools as the Physical Activity Readiness Questionnaire (PAR-Q) or the health screening questionnaire developed by the Wisconsin Affiliate of the American Health Association. The PAR-Q is the minimum acceptable tool for Fitness Center screening of new users. In addition to requiring a user's completion of the PAR-Q questionnaire (or implementing another equivalent or more stringent screening process), blood pressure shall also be evaluated. If any results suggest a potential medical problem, the user shall be referred to either the Center OH Clinic or their Private Medical Doctor. For any user that is referred to a Center OH Clinic or their PMD, a written medical

clearance shall be required prior to their use of the Fitness Center. All Fitness Center users shall be re-screened at least every three years (Appendix C, Physical Exam Matrix, and "Fitness Center Clearance"). The results of the periodic clearance process information shall be kept on file at the Fitness Center and readily identifiable with the user according to the rules for Personally Identifiable Information (PII). All documentation containing medical information about users shall be maintained in a secure and locked file.

3.3.6.2 A Fitness Center orientation shall be provided to each new user, including emergency procedures, a discussion of Fitness Center rules and regulations, and detailed instructions on how to safely use the Center and equipment.

3.3.6.3 A mechanism for user comments and feedback shall be implemented (e.g., annual survey for continued quality improvement).

3.3.6.4 A method shall be implemented and enforced to identify (badge, keyed lock) users who have been screened and eligible to use the facility. Users shall sign in manually or electronically each time they use the Fitness Center. Ideally, sign-in procedures are accomplished through a computerized system in which statistical information can be extracted to monitor Fitness Center use.

3.3.6.5 The Fitness Center hours of operation shall meet the majority of users' needs and work schedules. Supervisors shall encourage and support employee use of the Fitness Center and health promotion activities.

3.3.6.6 For safety reasons, using the "Buddy System" at unmanned Fitness Centers shall be discouraged.

3.3.6.7 In an emergency, a Fitness Center staff member shall remain with the client at all times during a medical emergency until assistance has arrived. A physician, registered nurse, or emergency medical technician trained in advanced cardiac life support shall be the medical liaison responsible for critiquing emergency drills and reviewing the Fitness Center medical emergency plans and incident reports.

3.3.6.8 Fitness Center staff AED training shall be conducted as soon as possible after hiring. Training renewal shall be completed by responders based on Federal and state requirements, usually every two years.

3.3.6.9 The Federal Employees Compensation Act (FECA), as amended, 5 U.S.C. S8101 et seq., provides for the payment of workers' compensation benefits to Federal employees sustaining injuries while in the performance of their duties. The Department of Labor has established guidelines defining the scope of FECA's coverage for employees injured while engaging in physical fitness activities. The FECA shall be consulted for additional details regarding the applicability of Federal employee compensation benefits in the case of an employee injury at a Center Fitness Center.

3.4 Nutrition

3.4.1 Policy

3.4.1.1 NASA's workplace nutrition program shall increase awareness through education and create a work environment supportive of preventable health practices.

3.4.2 Responsibilities

3.4.2.1 The CHMO shall provide policy guidance for promoting nutrition at NASA Centers.

3.4.2.2 The DOH shall provide technical support and consultation on food services statement of

work (SOW).

3.4.2.3 The OH COTR shall support the implementation of the Agency-wide health promotion plan and all related activities.

3.4.2.4 The Center Medical Directors shall implement nutritional awareness and education programs, advocating for a workplace environment supportive of good nutritional practices and collaborating with the food service vendor and the respective COTR.

3.4.2.5 As appropriate, the Center specific health promotion team shall be included in the development of the nutrition promotion agenda utilizing the Nutrition Technical Bulletin as a point of reference.

3.4.3 Process Description

3.4.3.1 The CHMO shall provide guidance and support to the Centers for overall planning and implementation.

3.4.3.2 The OH COTR shall review and comment on the Center's overall nutrition education agenda. The COTR shall ensure collaboration between the Clinic Medical Director or designees and the food service vendor and their respective COTR.

3.4.3.3 The Center Medical Director or designee shall develop nutrition awareness activities that:

a. Address the impact of food and supplements on disease management and prevention;

b. Provide consultation services to the food service vendor; and

c. Develop a set of metrics for program evaluation.

3.5 Solar Safe Program

3.5.1 Policy

3.5.1.1 Since the majority of the NASA Centers are located in the Sunbelt, the NASA workforce is potentially at risk for developing some forms of skin cancer. All NASA Centers shall follow the principles of Solar Safe.

NOTE: The agenda for the Solar Safe Program is found on the Occupational Health Program Web site at www.oph.nasa.gov.

3.5.2 Responsibilities

3.5.2.1 The CHMO shall provide policy guidance and technical support for implementation of the Solar Safe program at NASA Centers.

3.5.2.2 The Center OH COTR shall ensure that Center operations are conducive to the implementation of such programs and related disciplines such as medical and industrial hygiene are acting in concert to achieve maximum benefit.

3.5.2.3 The Center Medical Director shall implement the Solar Safe program. All NASA Centers must provide skin cancer screening as part of their medical services and provide ongoing activities to increase awareness through education.

3.5.2.4 The Center-specific health promotion team shall participate in the development and assessment of the Solar Safe program.

3.5.2.5 The Center Medical Director designees shall provide the CHMO with a periodic assessment of their progress and program outcome.

3.5.3 Process Description

3.5.3.1 The CHMO shall provide policy guidance and support for overall planning, oversight, and evaluation.

3.5.3.2 The Center OH COTR shall review and comment on the Center's Solar Safe program components. The COTR shall ensure collaboration between the disciplines, especially if more than one contractor is involved. When warranted, the COTR shall advocate for a work environment conducive to the success of the program.

3.5.3.3 The Center Medical Director or designee shall develop a broad plan of action to address sun safety, especially if the workforce is involved in outdoor activities in relation to job duties.

3.5.3.4 The Center Medical Director or designee shall work in partnership with related disciplines such as industrial hygiene, the employers, the supervisors, and union representatives to:

a. Build a sustainable and comprehensive program that addresses behavior modification through education and communication of relevant health information;

b. Coordinate partnerships with local specialists, agencies or non-for-profit societies such as the America Cancer Society (ACS) to offer skin cancer screening as a component of, or independent of, a periodic physical and medical surveillance examinations; and

c. Advocate for administrative measures such as work schedule changes to reduce the amount and duration of exposure between peak hours and to increase compliance with "covering up" behaviors.

3.6 Smoking Cessation

3.6.1 Policy

3.6.1.1 The implementation of smoking cessation programs shall be instituted across NASA Centers and Facilities.

3.6.1.2 The programs shall identify smokers, assess smokers' interest in quitting, and provide access to intervention programs.

3.6.1.3 NASA Centers shall either implement Center-specific, evidence-based intervention programs or they may collaborate with recognized societies such as the ACS or the American Lung Association.

3.6.2 Responsibilities

3.6.2.1 The CHMO shall provide policy guidance and technical support for implementing smoking cessation programs at NASA Centers.

3.6.2.2 The Center OH COTR shall ensure that Center operations are conducive to implementation of such programs and that related disciplines such as medical, fitness, EAP, and industrial hygiene (IH) are acting in concert to achieve maximum benefit.

3.6.2.3 The Center Medical Director shall implement a smoking cessation program, advocating for a workplace environment supportive of good health practices and ensuring program metrics are met.

3.6.3 Process Description

3.6.3.1 The CHMO shall provide policy guidance and support to the Centers for overall planning and implementation.

3.6.3.2 The Center OH COTR shall review and comment on the Center's smoking cessation agenda. The COTR shall ensure collaboration between the disciplines, especially if more than one contractor is involved. When warranted, the COTR shall advocate for a work environment conducive to the success of the smoking cessation program.

3.6.3.3 The Center Medical Director or designee shall develop a smoking cessation plan focusing on the following goals:

a. Preventing tobacco use among the workforce;

b. Promoting tobacco use cessation;

c. Eliminating exposure to secondhand smoke; and

d. Educating about tobacco-related health disparities.

3.6.3.4 The Center Medical Director or designee shall work in partnership with related disciplines such as fitness, EAP, IH, physicians, and nutritionists to accomplish these goals by:

a. Building a sustainable and comprehensive program that addresses multiple treatment modalities;

b. Communicating relevant and timely health information; and

c. Establishing partnership with local agencies or non-for-profit societies such as the American Lung Association.

3.6.3.5 The Center specific health promotion team shall be included in the development and assessment of the smoking cessation program.

3.6.3.6 The Center Medical Director or designee shall provide OCHMO with a periodic assessment of Center progress and program outcome.

3.7 Annual Immunization Program

3.7.1 Policy

3.7.1.1 Immunization practices at NASA Centers shall be based on the latest available recommendations from the U.S. Preventive Services Task Force, Centers for Disease Control and Prevention, and other leading health professional organizations.

3.7.1.2 Since flu immunization provides protection against influenza strains contained in the vaccine through one flu season, yearly immunization shall be offered to all employees without known contraindications.

3.7.2 Responsibilities

3.7.2.1 The CHMO shall provide policy guidance and technical support for the implementation of the Adult Immunization Program at NASA Centers.

3.7.7.2.1 The DOH shall ensure the effectiveness of Center flu immunization efforts through its regular periodic audit process.

3.7.2.3 The Center OH COTR shall advocate for Center operations and budgetary assignment that

are conducive to the implementation of the total immunization program, including the annual influenza immunization program.

3.7.2.4 The Center Medical Director shall implement the annual immunization program.

3.7.3 Process Description

3.7.3.1 The Center OH COTR shall review and comment on the Center's annual influenza immunization program. The COTR shall advocate for the success of the program and provide OCHMO with a periodic assessment as requested.

3.7.3.2 Preventative health activities for all NASA clinics shall include a review of immunization status as part of every clinic visit.

3.7.3.3 Centers shall develop relevant policies and procedures to address immunization services as part of their overall scope of services.

Chapter 4. Environmental Health

4.1 General

4.1.1 Policy

4.1.1.1 NASA Centers shall comply with the following applicable regulations and standards:

a. The Occupational Safety and Health Administration (OSHA) standards promulgated under Section 6 of the OSH Act of 1970;

b. 10 CFR, Chapter I, Nuclear Regulatory Commission;

c. 21 CFR Part 120, Hazard Analysis and Critical Control Point Systems; and

d. Consensus standards and recognized industry standards (e.g., American Conference of Governmental Industrial Hygienists Threshold Limit Values and Biological Exposure Indices for Chemical Substances and Physical Agents; American National Standard Institute (ANSI); the National Council on Radiation Protection (NCRP); etc).

4.1.1.2 Centers may pursue variances to OSHA and NASA standards and adopt supplemental/alternate standards as per 29 CFR 1960 and NPR 8715.1, NASA Occupational Safety and Health Program requirements.

4.1.2 Recordkeeping

4.1.2.1 Centers shall keep designated records to evaluate trends and outcomes; validate the effectiveness Environmental Health (EH) programs, document training and pertinent EH events, and provide a mechanism for active managerial control over EH programs.

4.1.2.2 All required records shall be complete, accurate, timely, and appropriate for the task and provide for a continuity of information.

4.1.2.3 All required records shall not be obliterated. When corrections are needed, a line shall be struck through the error, a correction effected, and a notation explaining the correction added. Corrections to electronic databases shall be traceable.

4.1.2.4 All EH and EH-related records shall be subject to review for quality and consistency by the Office of the Chief Health and Medical Officer (OCHMO) EH representatives and OSHA personnel when requested during a site visit or compliance inspection. Records shall be made available to employees, former employees, and their representatives upon request.

4.1.2.5 Centers shall generate, retain, and dispose of EH records according to NASA records requirements, the specific requirements of this chapter, and 29 CFR 1960, Subpart I, Recordkeeping and Reporting Requirements.

4.1.2.6 Records containing individuals' personal information shall be safeguarded in accordance with 5 U.S.C. 552a, the Privacy Act of 1974; and shall be maintained and dispositioned in accordance with NPR 1441.1, NASA Records Retention Schedules.

4.1.3 Emergency Preparedness

4.1.3.1 The Agency Security and Program Protection organization shall coordinate with the OCHMO on EH emergency preparedness efforts and requirements as requested. Corresponding Center Security and Program Protection counterparts shall coordinate with and support Center EH emergency preparedness efforts and requirements.

4.1.3.2 Center EH organizations shall develop emergency preparedness plans to implement their roles and responsibilities specified in the Center Emergency Preparedness Plan.

4.1.3.3 Center EH organizations shall participate in pertinent Center drills, followed by lessons learned to be used to improve EH emergency responses.

4.1.4 Designated Agency Safety and Health Official (DASHO) Notification Requirements.

4.1.4.1 Centers shall inform the DASHO immediately by the most expeditious means, with a simultaneous copy to the Senior Environmental Health Officer, of the following:

a. Events involving a work-related employee death or in-patient hospitalization of an employee;

b. Official visitations by any Federal or state safety or EH-related agency to Centers or any NASA facilities;

c. Center refusal of entry of any Federal or state safety or EH-related agency for an inspection;

d. Receipt of Federal or state safety or EH-related agency citations;

e. Health and safety-related reports of reprisal or discrimination;

f. Reports of Immediately Dangerous to Life and Health (IDLH) working conditions; and

g. Health and safety-related warrants/subpoenas.

4.1.4.2 Centers shall inform the DASHO of the results of OSHA inspections and investigative reports of OSHA reportable events, within ten (10) days, by letter, e-mail, or facsimile with copies to the Agency Office of Safety and Mission Assurance (OSMA).

4.1.4.3 Centers shall inform the DASHO of corrective action reports of OSHA reportable events and replies to OSHA inspections and reports of unsafe working conditions that are unresolved in 30 days, by letter, e-mail, or facsimile within 30 days with copies to the Agency OSMA.

4.1.5 OCHMO Notification Requirements

4.1.5.1 In addition to the DASHO notification requirements, notifications to the OCHMO shall be made to the Senior Environmental Health Officer (SEHO). Centers shall inform the SEHO of EH coordination, partnering, collaboration, agreements, etc., with any Federal agency (examples: FDA, NIOSH, EPA, DOT, NRC, etc.), within ten (10) days, by letter, e-mail, or facsimile.

4.1.6 Training and Certification

4.1.6.1 All personnel shall be appropriately trained for the tasks they perform and shall meet at least the minimum applicable regulatory requirements for training and certification.

4.1.6.2 Specifically, the requirements of OSHA Publication, OSHA 2254, Training Requirements in OSHA Standards, and Training Guidelines shall be met. Safety and health inspectors shall meet the requirements of 29 CFR 1960.25, Qualifications of Safety and Health Inspectors and Agency Inspections, and NPR 8715.1, NASA Safety and Health Program.

4.1.6.3 Agency personnel in charge or responsible for EH aspects shall be trained in accordance with the following OSHA requirements:

a. Top Agency management officials: 29 CFR 1960.54, Training of Top Management Officials;

b. Agency supervisors: 29 CFR 1960.55, Training of Supervisors;

c. Safety and health specialists: 29 CFR 1960.56, Training of Safety and Health Specialists;

d. Safety and health inspectors: 29 CFR 1960.57, Training of Safety and Health Inspectors;

e. Collateral duty safety and health inspectors and safety and health committee members:

29 CFR 1960.58, Training of Collateral Duty Safety and Health Personnel and Committee Members; and

f. Employees and employee representatives: 29 CFR 1960.59, Training of Employees and Employee Representatives.

4.1.7 EH Budget and Resources

4.1.7.1 The NASA Administrator shall ensure that the Agency budget submission includes appropriate financial and other resources to effectively implement and administer the Agency's EH program, per 29 CFR 1960.7, Financial Management.

4.1.7.2 The DASHO, NASA Program Managers, and Center Directors, safety and health officials at all appropriate levels, and other management officials shall be responsible for planning, requesting resources, implementing, and evaluating EH program budgets in accordance with

29 CFR 1960.7(b) and the regulations of the Office of Management and Budget Circular A-11 (sections 13.2(f) and 13.5(f) and other relevant documents.

4.1.7.3 Resources for EH programs shall include, but not be limited to, the following, in accordance with 29 CFR 1960.7(c):

a. Sufficient personnel to implement and administer the program at all levels, including necessary administrative costs such as training, travel, and personal protective equipment;

b. Abatement of unsafe or unhealthful working conditions related to Agency operations or facilities;

c. Safety and health sampling, testing, and diagnostic and analytical tools and equipment, including laboratory analyses;

d. Any necessary contracts to identify, analyze, or evaluate unsafe or unhealthful working conditions and operations;

e. Program promotional costs such as publications, posters, or films;

f. Technical information, documents, books, standards, codes, periodicals, and publications; and

g. Medical surveillance programs for employees.

4.2 Occupational Exposure Limits (OEL's)

4.2.1 Policy

4.2.1.1 At a minimum, NASA shall follow all OSHA standards promulgated under Section 6 of the OSHA Act of 1970, including the Permissible Exposure Limits (PEL's) for hazardous airborne contaminants identified in 29 CFR 1910 Subpart Z.

4.2.1.2 To more fully protect the NASA workforce, OEL's recommended and established by other acknowledged authorities or those developed specifically by NASA shall also be used.

NOTE: While the OSHA PEL's carry the weight of law, the majority of them were adopted in 1970 from 1968 consensus values and do not necessarily reflect current scientific data. Additionally, there currently are PEL's established for approximately 400 chemicals. This is a relatively small percentage of the thousands of chemicals that exist. For these reasons, use of OEL's is necessary and prudent.

4.2.2 Responsibilities

4.2.2.1 The Chief Health and Medical Officer (CHMO) shall provide oversight in the area of OEL's and shall assess compliance with this policy.

4.2.2.2 CHMO shall provide technical support to NASA Centers in developing OEL's where none exist. Support may be in the form of reference materials, literature searches, consultation with experts, etc.

4.2.2.3 CHMO shall notify all Centers when an OEL is established by one Center for a specific chemical so they can assess its applicability to their operations.

4.2.2.4 Centers shall be responsible for monitoring the workplace and workforce and to select the most appropriate and protective OEL's for the work being performed and ensuring people with appropriate training implement OEL's. They are also responsible for developing and recommending OEL's in the absence of an existing OEL for a specific chemical.

4.2.3 Process Description

4.2.3.1 NASA Centers shall utilize OSHA PEL's, Threshold Limit Values (TLV) issued by the American Conference of Governmental Industrial Hygienists (ACGIH) or specific NASA Health Standards issued by the OCHMO, whichever is more stringent.

4.2.3.2 In the absence of a specific PEL, TLV, or NASA Standard, other sources of OEL's shall be utilized. These include the following: (1) National Institute for Occupational Safety & Health's (NIOSH) Recommended Exposure Limit (REL); (2) American National Standards Institute (ANSI) Standards; (3) National Academy of Science Recommendations; (4) American Industrial Hygiene Association (AIHA) Workplace Environmental Exposure Level (WEEL); (5) Environmental Protection Agency Recommendations; (6) Deutsche Forschungsgemeinschaft (German Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area) Maximum Allowable Concentration; (7) British Health & Safety Commission and Health & Safety Executive. Occupational Exposure Limits, and (8) Chemical Manufacturers recommend exposure values.

4.2.3.3 When no established OEL exists for a specific chemical, a working OEL shall be established based on a thorough examination of the data available for that chemical and by following established industrial hygiene exposure limit setting guidelines. Only professionals that possess the appropriate degree of knowledge, experience, and professional judgment (e.g., a Certified Industrial Hygienist) shall establish a working OEL. This process shall take into account chemical analogy, animal experimentation and extrapolation, and human experience and epidemiological data.

4.2.3.4 All of the available data shall be thoroughly documented. A written rationale that considers, summarizes, and weighs the importance of all data shall be produced. Additionally, experience and professional judgment shall be applied to weigh all information and apply an appropriate safety factor, based on the strength of the available data, before an OEL is recommended.

4.3 Occupational Exposure Assessment and Management

4.3.1 Policy

4.3.1.1 NASA Centers shall employ a systematic and comprehensive approach to exposure assessment to anticipate, recognize, evaluate, and control health hazards in the workplace and effectively and proactively manage Industrial Hygiene (IH) programs.

4.3.2 Responsibilities

4.3.2.1 The CHMO shall provide oversight in the area of Occupational Exposure Assessment and Management, assess compliance with this policy, and provide leadership in this area by working to standardize data collection across the Agency.

4.3.2.2 CHMO shall assess Center compliance with the Occupational Exposure Assessment and Management policy.

4.3.2.3 Centers shall establish and implement an effective Exposure Assessment and Management Program as outlined in this policy.

4.3.3 Process Description

4.3.3.1 All Center Environmental Health (EH) programs shall establish a written Occupational Exposure Assessment and Management Program whose purpose is to collect and organize available information on the workplace; the workforce; chemical, physical, and biological agents; existing controls; historical exposure data; biological monitoring data; and any other available source of information such as OEL's. This written program shall also include program goals and objectives.

4.3.3.2 The outcome of this exposure assessment effort shall be a complete summary of available, essential information on workers, tasks, agents, potential exposures (factoring in frequency and duration) and potential health effects.

4.3.3.3 All Center programs shall create similar exposure groups (SEG's) and define exposure profiles for the identified exposure groups. All potentially exposed employees shall be in a minimum of one identified exposure group.

4.3.3.4 A determination shall be made about the acceptability, unacceptability, or uncertainty of the exposure profile defined for each SEG. Uncertain exposures lead to further information gathering. Unacceptable exposures lead to control of the exposure. Acceptable exposures lead to a programmed reassessment.

4.3.3.5 Exposure groups with unacceptable exposures shall be prioritized and a strategy developed for control.

4.3.3.6 The exposure assessment program shall have a component that involves continual information gathering for the purpose of setting priority on exposure groups for additional characterization and further information gathering. This can be either qualitative or quantitative information and is used to enhance the basic characterization and better define exposure groups, their profile, and the risk posed by the exposure profile.

4.3.3.7 When monitoring data is collected, statistical tools (such as the AIHA tool or lognorm) shall be used to aid in understanding the data and to assist in interpretation and decision making.

4.3.3.8 All workers shall be protected using personal protective equipment (PPE) or administrative controls while long-term controls are being implemented.

4.3.3.9 Exposures shall be periodically re-characterized and reassessed in order to update exposure groups and exposure profiles.

4.3.3.10 The following records shall be maintained to document compliance with this chapter in accordance with applicable NASA recordkeeping requirements:

a. Lists of SEG's;

b. Exposure profiles; and

c. Judgments of acceptability.

4.4 Sampling, Analytical Methods, and Equipment Calibration

4.4.1 Policy

4.4.1.1 Critical data integrity shall be ensured by adherence to OSHA, NIOSH, or other recognized sampling and analytical methods using properly calibrated equipment with National Institute of Standards and Technology (NIST) traceability.

4.4.2 Responsibilities

4.4.2.1 The OCHMO shall assess the quality, consistency, and effectiveness of Center programs addressing proper sampling technique, analytical methods, and equipment calibration.

4.4.2.2 Centers shall develop appropriate policy and procedures to ensure that proper sampling techniques, analytical methods, and equipment calibration are used throughout the data collection process.

4.4.3 Process Description

4.4.3.1 Centers shall develop a written policy and procedures for Sampling, Analytical Methods and Equipment Calibration utilizing methods established by professional or regulatory bodies. At a minimum, these requirements shall address sample planning, sampling methodology, pre-survey calibration, survey performance, sample collection, post-survey calibration, sample documentation, shipment of sample media, equipment calibration and maintenance, and recordkeeping.

4.4.3.2 Engineering, administrative, and PPE controls shall be applied as appropriate whenever a sample exceeds the OSHA permissible exposure limit or the ACGIH threshold limit value, or other established OEL. Engineering controls shall be applied first. If engineering controls are not feasible, administrative controls shall be used. PPE shall be used as a last control measure.

4.4.3.3 All results shall be recorded and maintained in accordance with OSHA or NASA recordkeeping requirements, whichever is more stringent.

4.5 Reproductive and Developmental Health

4.5.1 Policy

4.5.1.1 NASA shall protect the reproductive health of all employees, students, and visitors from occupational exposures to substances (chemical, biological, radiological, or physical) known or suspected of being capable of posing a hazard to human reproduction and identify potential reproductive and developmental hazards and implement appropriate exposure control measures.

NOTE: This includes protection of the unborn.

4.5.1.2 NASA shall keep exposures as low as reasonably achievable since short-term exposures to reproductive hazards can result in long-term health effects and a developing fetus may also be adversely affected by exposures lower than those generally considered safe for adults.

4.5.3 Responsibilities

4.5.3.1 The CHMO shall establish and maintain a Developmental and Reproductive Health Protection policy that is reflective of Federal guidance, provides coordination and communication with the NASA Centers, and provides technical and subject matter expertise.

4.5.3.2 The CHMO shall provide Developmental and Reproductive Health Protection oversight and assess compliance with this policy.

4.5.3.3 Centers shall develop, implement, administer, and maintain a written Developmental and Reproductive Health Protection Program that is designed to ensure employees and their unborn children are adequately protected from recognized hazards.

4.5.4 Process Description

4.5.4.1 Written developmental and reproductive health protection guidelines shall include provisions for:

a. Evaluating areas where potential chemical, biological, or physical reproductive hazards exist and determine extent of potential exposures;

b. Recommending procedures to reduce workplace exposures to reproductive hazards (i.e., engineering controls, use of PPE, job rotation, etc.);

c. Providing training on chemical, physical, and biological reproductive hazards in the work area, including proper use of PPE, safety devices, etc., and other methods of decreasing exposure;

d. Providing information regarding reproductive hazards in the workplace;

e. Providing specific radiation safety training, including information on declaration of pregnancy for radiological issues;

f. Implementing measures (for declared pregnancies) to achieve the lower exposure limit (0.5 rem to embryo/fetus during entire gestation period) and conduct dose monitoring;

g. Managing written declaration of pregnancies for workers exposed to radiological hazards.

NOTE: See Section 4.15 of this Chapter for more information on radiation;

h. Ensuring that known reproductive hazards specific to a work area are included in the written job description;

i. Ensuring that supervisors provide individual operation training;

j. Maximizing employee privacy when implementing the elements of the program;

k. Notifying Occupational Medicine regarding areas with potential exposures for medical surveillance purposes or EH regarding areas requiring a workplace hazard assessment; and

l. Ensuring that alternate job duties are considered when indicated by Occupational Medicine, designating the person responsible for arranging reasonable accommodations, if available, and designating the person responsible for counseling the employee about other options, including sick leave and family leave when a reasonable accommodation is not available.

4.5.4.2 The Center EH organization shall perform a workplace hazard assessment upon the request of an employee or when it is necessary to ensure existing controls (engineering, administrative, and PPE) are adequate to protect the employee from reproductive hazards. The hazard assessment shall include:

a. Identification of chemical, biological, physical, or radioactive agents in the workplace that present a potential exposure risk;

b. Qualitative exposure assessment of concerned employee;

c. Review of work practices and PPE used, and recommend additional control measures if needed; and

d. Review of past EH reports and historical sampling results, if available.

4.6 Nanotoxicology

4.6.1 Policy

4.6.1.1 Since nanomaterials may pose unusual risk to human health due to their unique composition, reactivity, size, and ability to cross cell membranes, NASA shall ensure that all work with manufactured nanomaterials is prudently conducted in a manner that is responsible and safe.

4.6.2 Responsibilities

4.6.2.1 The CHMO shall establish and maintain a Nanotoxicology policy that reflects Federal and best practice initiatives, provide coordination and communication with the NASA Centers, and provide technical and subject matter expertise.

4.6.2.2 The CHMO shall provide Nanotoxicology program oversight and assess compliance with this policy.

4.6.2.3 Center Occupational Health (OH) Managers shall ensure that they have a written Nanotoxicology program (if needed), designed and implemented to ensure all work with manufactured nanomaterials minimizes exposures As Low As Reasonably Achievable (ALARA) or other exposure standards described in

Section 4.2. This program can be a part of the Chemical Hygiene Plan already required by 29 CFR 1910.1450 and/or hazard review processes at the Center (Safety Permit process, etc.).

4.6.3 Process Description

4.6.3.1 All Centers shall have a written Nanotoxicology program (if needed) that encompasses the requirements of this section.

4.6.3.2 Transportation, storage, use, and disposal of manufactured nanomaterials shall be conducted in accordance with all Federal, state, and local requirements.

4.6.3.3 Laboratory personnel shall be informed of the risks associated with workplace hazards through training programs, material safety data sheets, and labeling and signage.

4.6.3.4 Use of any manufactured nanomaterials that are defined as "chemical substances" under the Toxic Substances Control Act (TSCA) and which are not on the TSCA Inventory shall be reported to the U.S. Environmental Protection Agency (EPA). A Pre-manufacture Notice shall be submitted to the EPA by anyone intending to manufacture or import a chemical substance that is not on the TSCA Inventory of Chemical Substances.

4.6.3.5 All U.S. Food and Drug Administration (FDA) regulations applying to products that utilize nanotechnology or contain manufactured nanomaterials shall be followed.

4.6.3.6 Hazard Assessments shall be conducted prior to beginning work with manufactured nanomaterials by a qualified industrial hygienist to identify appropriate work procedures, controls, and personal protective equipment to ensure worker safety. The assessment shall evaluate several factors, including, but not limited to, the physical and chemical properties of the nanomaterial, the process by which the material will be generated and/or used, and existing engineering controls (e.g., fume hood, glove box).

NOTE: In some instances, the industrial hygienist may recommend collecting occupational exposure measurements (e.g., sampling) to further understand potential hazards or to identify specific processes or equipment requiring additional engineering controls.

4.6.3.7 All exposures to manufactured nanomaterials shall be kept to a minimum by utilizing the basic hierarchy of controls described below.

a. Engineering. In order to provide a safe work environment for faculty, staff, students, and visitors, engineering controls must be maintained wherever manufactured nanomaterials are used or stored. These controls may include local exhaust ventilation and localized filtration.

b. Respiratory protection. When local exhaust ventilation and filtration is not available or feasible for work involving manufactured nanomaterials, respiratory protection shall be utilized. However, the preferred method for manipulating manufactured nanomaterials is in solution, and every effort should be made to design and implement effective engineering controls for any operation where manufactured nanomaterial are used.

c. Work Practices. The incorporation of good work practices helps to minimize exposure to manufactured nanoparticles.

d. Administrative. Although traditional PEL's exist for many of the substances that manufactured nanomaterials are made from, the PEL for a nanomaterial of these substances is not yet clear. Thus, it is important to incorporate administrative controls into most all operations.

e. PPE. Typical chemistry laboratory apparel and PPE shall be worn when working with manufactured nanomaterials. This includes long pants, shirts, and shoes, as well as safety glasses, laboratory coats, and gloves. Open sandals, shorts, and skirts are prohibited.

4.6.3.8 Spill management shall be addressed emphasizing that all debris resulting from the cleanup of a manufactured nanomaterial spill shall be handled as though it were hazardous and include procedures for access control and cleanup of both dry and wet materials.

4.6.3.9 Waste disposal shall be addressed, focusing on characterization of the manufactured nanomaterial waste as either hazardous or non-hazardous, packaging, labeling, or transportation requirements as appropriate.

4.7 Control of Hazardous Substances and Articles Acquisitions

4.7.1 Policy

4.7.1.1 It is NASA's policy to evaluate the potential health and safety compliance and exposure issues involved with the use of hazardous substances and articles at NASA and set hazard controls prior to acquisition of these substances and articles. This includes acquisition of hazardous substances and articles via all types of procurements, including credit card purchases, donations, open orders, gifts, free samples, and other acquisitions of hazardous substances and articles. This section also includes hazardous substances and articles that are otherwise brought onto NASA-managed property.

4.7.2 Responsibilities

4.7.2.1 The OCHMO shall periodically monitor Center programs, which provide for overall hazardous substance/article control, including evaluation of Center controls over procurements of hazardous substances/articles during regular OH reviews.

4.7.2.2 NASA Centers shall be responsible for the following:

a. Administering and identifying baseline hazardous substance and article acquisition programs;

b. Maintaining and monitoring the effectiveness of hazardous substance and article acquisition programs, including all mechanisms for acquisition of hazardous substances and articles;

c. At least annually, auditing the records of purchases to ensure all hazardous substances and articles acquisitions are being reviewed and approved by competent persons and health and safety requirements for acquisitions are being properly implemented prior to acquisition;

d. Complying with OSHA, EPA, Nuclear Regulatory Commission (NRC), Department of Transportation (DOT), and other pertinent regulatory requirements for the acquired hazardous substances and articles;

e. Following the manufacturer's product recommendations and requirements;

f. Monitoring conformance with the requirements of this section and reporting nonconformances to Center or Facility managers; and

g. Assuring the requirements of this section are included in all contract procurements, with provisions to extend the requirements to subcontracts.

4.7.2.3 Competent Persons are responsible for reviewing procurements of hazardous substances and articles and coordinating with Center safety and health organizations to:

a. Identify baseline hazards associated with the acquisition;

b. Identify alternatives, where available, to reduce risk;

c. Determine safety and health requirements for the safe use of the material/equipment; and

d. Disapprove acquisitions of hazardous substances/articles that cannot be safely used.

NOTE: A Competent Person is a person who has acquired through training, qualification, or experience, the knowledge and skills to identify hazardous substances/articles being requested for acquisition, and the ability to manage those purchased and brought oncenter.

4.7.3 Process Description

4.7.4.1 This section describes the minimum requirements that Centers shall implement for safe acquisition of hazardous substances and articles.

4.7.4.2 Each Center shall implement a means to positively control and regulate acquisitions of hazardous substances and articles.

4.7.4.3 Each Center shall implement a means to hold purchasers and receivers accountable for the proper and safe acquisition of hazardous substances and articles.

4.7.4.4 The following provisions shall be implemented prior to acquisition:

a. Use of a less hazardous substance or article, if one can reasonably be substituted;

b. Acquisition of the smallest reasonable amount, size, activity, or hazard potential;

c. Approval of the acquisition by a Competent Person; and

d. Completion of hazard determinations, training, and other pertinent preparations adequate to assure safe use.

4.7.4.5 Competent Persons shall be authorized by the Center or Facility to acquire hazardous substances or articles.

4.7.4.6 Only Competent Persons shall approve acquisitions of hazardous substances and articles.

4.7.4.7 Competent Persons shall have the authority to deny acquisitions of hazardous substances and articles until potentially significant hazardous conditions are eliminated or controlled.

4.8 Hearing Conservation

4.8.1 Policy

4.8.1.1 This section establishes minimum requirements for an Agency-wide Hearing Conservation Policy. It outlines NASA's requirements for primary prevention of noise-induced hearing loss where employees are occupationally exposed to hazardous noise in all occupational settings, including all ground-based operations and all aircraft operations. This section does not apply to space flight operations.

4.8.1.2 The requirements of the latest revision of 29 CFR 1910.95, Occupational Noise Exposure Hearing Conservation Amendment Final Rule and appendices, and the requirements of the latest revision of 29 CFR 1904.10, Occupational Injury and Illness Recordkeeping and Reporting Requirements, for cases involving occupational hearing loss are incorporated herein by reference and shall be followed unless otherwise specified in this section.

4.8.1.3 Where conflicts exist between other NASA health and safety requirements, 29 CFR 1910.95, Occupational Noise Exposure Hearing Conservation Amendment Final Rule and appendices, 29 CFR Part 1904.10, Occupational Injury and Illness Recordkeeping and Reporting Requirements, and this section, the most protective requirements shall apply.

4.8.1.4 Centers shall take steps to inform and protect all personnel (including aircraft pilots and crew members) from potential risks to their hearing that may be encountered in, or derived from, the workplace.

4.8.1.5 Centers shall have a written Hearing Conservation Program (HCP) which, at a minimum, addresses and applies the requirements and provisions of this section and requires their contractors to have HCPs in accordance with the NASA FAR Supplement 1852.223-70, Safety and Health.

4.8.1.6 Centers shall have OH personnel with knowledge in sound analysis, noise exposure assessment, hearing protection, audiometric testing, and noise abatement strategies.

4.8.1.7 Occupational health personnel shall review their Center's HCP, including the hearing conservation

training program, for adequacy at least every three (3) years and more frequently if program requirements change. All reviews shall be documented and available for audit by OCHMO staff.

4.8.1.8 Centers shall implement a "Buy Quiet and Quiet by Design" program.

4.8.1.9 Centers shall implement a system to effectively prioritize noise surveys and noise remediation efforts as part of their HCP and in accordance with the provisions of this section.

4.8.1.10 Communication and coordination between and among Center managers, supervisors, employees, engineers, environmental health personnel, and the Medical Director shall be implemented to properly identify, evaluate, and control hazardous noise exposures.

4.8.1.11 Center Directors and affected program and project managers shall be notified of all operations and equipment not conforming to this section or the Center's HCP.

4.8.1.12 All definitions in 29 CFR 1910.95, Occupational Noise Exposure, Appendix I, shall be applicable to this document unless otherwise defined in Appendix A of this NPR.

4.8.2 Responsibilities

4.8.2.1 The DASHO shall ensure the provision of resources for the development and review of the Agency's Hearing Conservation Policy and for implementation of the OCHMO's responsibilities contained therein.

4.8.2.2 The Agency Director of Occupational Health shall provide direction for, and approval of, the Agency's Hearing Conservation Policy.

4.8.2.3 The Senior Environmental Health Officer shall:

a. Make recommendations and provide advice concerning hearing conservation to the Director, Agency Occupational Health Program, and the DASHO when requested, and

b. Review the adequacy of HCPs at each Center as per Chapter 9, Audit Process.

4.8.2.4 The Chief Engineer and the Assistant Administrator for Infrastructure and Administration shall ensure that "Buy Quiet and Quiet by Design" provisions are integral to the site selection and design of new or modified facilities and equipment.

4.8.2.5 The Assistant Administrator for Procurement shall ensure that "Buy Quiet and Quiet by Design" provisions are included in all contracts and in the purchase of new equipment, as appropriate.

4.8.2.6 Center Directors, Component Facility Directors, and the Assistant Administrator for Infrastructure shall ensure the following:

a. Adequate resources are provided to implement Center HCPs; and

b. Approved HCPs are implemented at their Centers.

4.8.2.7 Facility Managers, design engineers, occupational health personnel, and employers of affected employees shall implement the provisions of their Center's HCP.

4.8.2.8 Contracting Officers shall ensure that Center contract requirements include provisions for written HCPs in accordance with the NASA, FAR Supplement 1852.223-70, Safety and Health.

4.8.2.9 Medical Directors shall ensure that all medical examinations relative to occupational noise are properly performed, appropriate records maintained; and that all examination results are communicated to the employee as specified herein.

4.8.3 Process Description

4.8.3.1 At a minimum, the written HCP, specified in Section 4.8.1.5, shall include provisions for:

a. Specifying the individual responsibilities of Facilities Managers, Design Engineers, Occupational Health

Personnel, Supervisors, and Employees;

b. Assuring that noisy areas are surveyed to determine if they are hazardous noise areas;

c. Affirming the criterion sound level and exchange rate;

d. Evaluating and maintaining the HCP's effectiveness;

e. Implementing "Buy Quiet and Quiet by Design" Programs;

f. Exposure monitoring;

g. Medical surveillance, including audiometric testing, review, and medical followup;

h. Notification and coordination between employees, management, and occupational health personnel of noise exposure and dosimetry monitoring and survey results, operational and design plan review results, the addition of new equipment or new operations, and any work-related STS.

i. Selection, use, cleaning, and inspection of hearing protectors;

j. Training for employees and supervisors of employees enrolled in an HCP;

k. Council for Accreditation of Occupational Hearing Conservation (CAOHC) Certification of Occupational Hearing Conservationists;

l. Recordkeeping and access to information as per NPR 1441.1, NASA Records Retention Schedules and Privacy Act requirements;

m. Policy documentation;

n. Noise control requirements and strategies;

o. Effective implementation of engineering, operational, and administrative controls; and

p. Appropriate corrective actions for employees who violate requirements of this section, the Center's HCP requirements, or 29 CFR 1910.95, "Occupational Noise Exposure Hearing Conservation Amendment Final Rule," and appendices.

4.8.3.2 Whenever an employee is occupationally exposed to noise equal to or exceeding the NASA action level of 82 dBA Time-Weighted Average (TWA) for 30 days or more per year or can be expected to be exposed to 85 dBA TWA for any one day, Centers shall administer a continuing, effective HCP in conformance with the requirements of this section with all the affected employees included in the program. Exposures shall be computed without regard to any attenuation provided by the use of personal protective equipment.

4.8.3.3 NASA's allowable noise exposure limit is the equivalent to an 85 dBA, 8-hour TWA exposure using a 3 dB exchange rate as shown in Table 1 below.

Table 1
Noise Exposure Limits

Exposure level (dBA)	Hours	Minutes	Seconds
81	20	10	0
82	16	0	0
83	12	42	0
84	10	5	0
85	8	0	0

86	6	21	0
87	5	2	0
88	4	0	0
89	3	10	0
90	2	31	0
91	2	0	0
92	1	35	0
93	1	16	0
94	1	0	0
95	0	47	37
96	0	37	48
97	0	30	0
98	0	23	49
99	0	18	59
100	0	15	0

a. Table 1 contains noise exposure levels and durations that are equivalent to this limit as calculated by the following formula where L stands for exposure level and T for duration: $T (min) = 480/2^{(L-85)/3}$;

b. Exposures exceeding the equivalent exposures in Table 1 shall be controlled, reduced, or eliminated through a hierarchical combination of engineering controls, administrative controls, and hearing protection devices;

c. Noise dose shall include all impact/impulse noise measured up to and including 140 dB peak; and

d. The action level is 82 dBA, 8 hour TWA.

4.8.3.4 "Buy Quiet and Quiet by Design" Programs shall:

a. Meet realistic and achievable baseline noise criteria and optimize noise emission criteria based on individual and specific operational and site conditions;

b. Encompass design and development, or selection and purchase, of a broad variety of fixed and portable equipment purchased for use by Centers, including equipment purchased by contractors, to minimize noise-exposure hazards to personnel;

c. Require all equipment expected to produce noise which is approaching hearing conservation levels of 80 dBA and higher under a variety of site and operational considerations.

d. Identify noise emission and control requirements for equipment procurement, specifications, and design;

e. Contain provisions for "Buy Quiet and Quiet by Design" program support, promotion, training, and management sponsorship;

f. Be individualized to meet Center-specific needs, configuration, and other relevant factors;

g. Contain provisions for a documented waiver process that accommodates specialized research project items or flight hardware.

4.8.3.5 Engineering Controls shall:

a. Be the first and primary means of controlling hazardous noise. The feasibility and cost of engineering controls may be considered when making decisions about these controls;

b. Attempt to reduce noise emissions (measured at operator position or equivalent) to below 85 dBA; and

c. Be reviewed to assess the adequacy of precautions that are planned and/or undertaken to control noise exposures.

4.8.3.6 Engineering projects, drawings, and operational plans, including noise control measures, shall be coordinated with affected management organizations and occupational health personnel in the early stages of the design and/or planning process and prior to contract award and/or authority to proceed.

4.8.3.7 Organizations responsible for introducing changes to facilities, operations, or procedures shall notify occupational health personnel of:

a. Any changes in operations or equipment that increases noise levels; and

b. Any new, uncontrolled, or previously unidentified areas, operations, or equipment that may produce hazardous noise or may not comply with the requirements of this section.

4.8.3.8 If engineering controls fail to reduce sound levels within the requirements specified in this section, administrative controls shall be utilized. Examples of administrative controls include access restrictions and time limitations in the hazardous noise area. Specific requirements for administrative controls include:

a. Maximizing the distance between the employee and the hazardous noise source to the extent practical; and

b. Identifying hazardous noise areas according to the following criteria:

(1) Areas determined to be hazardous noise areas shall be identified by posting with signs that conform to 29 CFR 1910.145, Specifications for accident prevention signs and tags requirements.

(2) Signs shall clearly indicate the presence of hazardous noise and state the requirement to wear hearing protection. The signs shall be posted at the entrance(s) to or the periphery of hazardous noise area(s).

(3) Decals or placards with similar statements shall be affixed to power tools and machines that produce hazardous noise levels, and caution signs shall be posted in areas where hazardous noise-producing tools and machines are used.

4.8.3.9 If both engineering and administrative controls fail to reduce sound levels to 85 dBA, 8-hour TWA or below, personal hearing protection shall be used to bring exposures to acceptable levels in accordance with the following:

a. All personnel who enter designated areas or who perform tasks where exposure to noise is greater than or equal to 82 dBA, regardless of the duration of exposure, shall be provided with personal hearing protection;

b. All personnel who enter designated hazardous noise areas or who perform tasks where exposure to noise is greater than or equal to 85 dBA or 140 dB peak, regardless of the duration of exposure or number of impulses, shall be provided with and required to wear personal hearing protection;

c. Earplugs shall be for the exclusive use of each employee and shall not be traded or shared;

d. Hearing Protection Devices (HPDs) shall attenuate employee noise exposure to an 8-hour, TWA of 85 dBA or less. For those employees with a Standard Threshold Shift (STS), HPDs shall attenuate exposure to an 8-hour, TWA of 82 dBA or less. HPD attenuation shall be determined by one of the following methods:

(1) The published Noise Reduction Rating (NRR) value may be used in accordance with the guidance in this section. When using the NRR of a hearing protector to predict protected exposure levels, the following de-rating criteria shall apply for all types of HPDs, where "NRR" is the manufacturer's Noise Reduction

Rating. Required NRR = [(LA - 85) x 2] + 7, where LA is the measured ambient sound level to which the employee is exposed.

(2) Where it is not possible to provide the calculated value of Required NRR in (i) above, the Required NRR may be calculated using the employee's unprotected TWA exposure in place of LA. Required NRR = [(TWA - 85) x 2] + 7, where TWA is the employee's unprotected TWA exposure level. TWA values that are used in the calculation of required NRR shall reflect actual hours worked and all contributions to the employee's exposure.

(3) Real-world attenuation of a particular employee's field-fit HPD may be determined experimentally using a commercial fit-check system or other published method, such as those described in ANSI S12.68. Protected exposures shall be calculated from experimentally-derived attenuation data in accordance with the guidance provided by the particular method chosen.

e. The adequacy of HPD attenuation shall be re-evaluated whenever employee noise exposures increase;

f. Special hearing-protective equipment, such as sound-suppression or noise-cancellation communication headsets, shall be regularly inspected if they are used in hazardous noise areas;

g. Sound-suppression and noise-cancellation headsets that have been damaged, altered, or modified in any way that affect the attenuation characteristics shall not be used; and

h. Where sound-suppression and noise-cancellation headsets are not permanently issued to individuals, such equipment shall be cleaned and sanitized before re-issuance.

4.8.3.10 Noisy areas shall be surveyed to determine if they are hazardous noise areas in accordance with the following requirements:

a. Measurement of potentially hazardous sound levels shall be conducted when any information, observation, or calculation indicates that an employee may be exposed to noise at or above the action level. This includes, but is not limited to, times where there is a need to document representative noise exposures, where employees complain of excessive noise, or where it is difficult to understand a normal conversation when the speaker and listener face each other at a distance of 3 feet;

b. Noise surveys shall also be conducted whenever any changes to facilities, equipment, work practices, procedures, or noise-control measures alter potential noise exposures. A review of hazardous noise sources and controls, employee exposures, and work practices and procedures shall be conducted for changed conditions whenever an employee experiences an STS;

c. In determining TWA exposures, all continuous, intermittent, and impulsive sound levels, from 80 dBA to 140 dBA, shall be integrated into the noise measurements;

d. Octave band analysis shall be conducted, as necessary, to establish the characteristics of the noise source and to help determine appropriate abatement techniques;

e. When a noise survey is performed, it shall determine the presence of compounding hearing-related circumstances present in the environment (e.g., certain solvents, heavy metals, carbon monoxide, heat, and vibration) to ensure proper mitigation;

f. Exposure monitoring shall be conducted when a noise survey shows that any employee or group of employees may be exposed to noise at or above 82 dBA, 8-hour TWA. The purpose of such monitoring is to determine the noise dose of the exposed employee and the representative exposure of similarly exposed employees and to determine appropriate noise abatement techniques;

g. All noise surveys and personal noise dosimetry monitoring shall be conducted in accordance with 29 CFR 1910.95 requirements, unless otherwise specified in this section;

h. Operational plans shall be reviewed to assess the adequacy of precautions that are planned and/or implemented to control noise exposures;

i. Baseline surveys shall be conducted of each operation, job, or procedure having the potential to create hazardous noise;

j. New equipment, operations, jobs, or procedures, with the potential for creating hazardous noise, shall be evaluated with regard to noise emissions prior to operational start up;

k. Employees and/or their representatives shall be provided an opportunity to observe noise dosimetry and area monitoring activities;

l. Affected employees shall be notified in writing of the results of noise dosimetry monitoring;

m. Employers of affected employees and the appropriate occupational health program managers shall be notified when noise measurement data indicate that noise exposures equal or exceed the action level or the limitations of Table 1. Written reports of the hazardous noise surveys that identify all survey observations, findings, and conclusions shall also be provided to affected employees; and

n. Hazardous noise areas shall be selected, surveyed, and documented each year.

4.8.3.11 All instruments used to measure workers' noise exposures shall adhere to the following requirements:

a. All instruments shall be field-calibrated prior to each use;

b. Instruments shall be checked and calibrated at least annually by the manufacturer, a representative of the manufacturer, or an approved laboratory; and

c. Sound-level meters used to measure worker noise exposures shall be set at "slow" response and A-weighting.

4.8.3.12 Audiometric test equipment shall be calibrated to meet the requirements specified in the latest revision of ANSI S3.6, Specification for Audiometers.

4.8.3.13 Ambient noise levels in audiometric test rooms and booths shall meet the specifications in the latest version of ANSI S3.1, Maximum Permissible Ambient Noise Levels for Audiometric Test Rooms.

4.8.3.14 Medical surveillance shall be provided to all employees enrolled in an HCP in accordance with the following requirements:

a. Employees receiving medical surveillance shall undergo a baseline audiometric examination before beginning work assignments in hazardous noise areas;

b. If it is not possible to obtain the baseline prior to noise assignment, then employees shall undergo a baseline audiometric examination within 30 days of initial exposure to hazardous noise. During this 30-day period, employees shall wear personal HPDs, which reduce their exposure to 82 dBA TWA or below. When it is discovered that personnel have already been assigned to a position that may expose them to hazardous noise but have not yet had an audiometric examination, audiometry shall be conducted within 30 days of the discovery, and employees shall wear personal hearing protection that reduces their exposure to 82 dBA TWA or below;

c. Audiometric examinations shall include an audiogram, an otoscopic examination by an audiologist, physician, or CAOHC Certified Occupational Hearing Conservationist to determine any existing medical pathology of the ear, and an update to their medical history (occupational and personal) to document past noise exposure and other otopathological factors;

d. The employee shall have no apparent or suspected ear, nose, or throat problems that might compromise the validity of the audiogram. When an employee has an acute disease that may compromise the validity of the test, the audiogram shall be delayed until the condition has abated;

e. The exposure history taken at the time of the audiometric examination shall include ototoxic medications and exposure to ototoxic substances;

f. Personnel suffering from acute diseases of the ear shall not be placed in hazardous noise areas until the condition has abated, particularly if such diseases preclude the wearing of hearing protectors;

g. Centers shall take all possible measures to assure that employees who have participated in the HCP medical surveillance program receive a final audiometric examination prior to termination of employment, transfer to duties not involving noise exposures, transfer to another installation, or retirement. An annual audiogram, if completed within six (6) months of the termination, transfer, or retirement date, may be substituted for the final audiogram; and

h. When employees at a Center retain their "work role position" but change employers due to contract award to a new employer, all medical records applicable to hearing conservation shall follow them to their new employer, including their current baseline threshold.

4.8.3.15 Audiometric testing shall be performed upon initial assignment, and annually thereafter, in accordance with 29 CFR 1910.95, Sections (g) and (h) and as follows:

a. An audiologist or physician knowledgeable in hearing conservation shall oversee all audiometric testing conducted by CAOHC-certified Occupational Hearing Conservationists;

b. Personnel who conduct audiometric testing shall be familiar with the provisions of this section;

c. All baseline audiograms and confirmation audiograms following the identification of a STS shall be preceded by a period of at least 14 hours during which there is no known exposure to noise above 82 dBA TWA, on or off the job. Hearing protectors that lower workplace noise to the equivalent of 82 dBA TWA, using the appropriate noise-reduction rating, may be used to conform to this requirement;

d. An STS shall be logged as an OSHA-recordable event in accordance with 29 CFR 1904.10 if the answers to ALL of the questions below are "yes:"

(1) Did an annual age-corrected audiogram reveal a STS (10 dB shift or greater, averaging 2k, 3k, and 4k Hz) relative to the baseline audiogram in one or both ears? (Age correction permitted.)

(2) Is the employee's uncorrected hearing threshold level (averaging 2k, 3k, and 4k Hz) 25 dB or greater above audiometric zero in the same ear as the STS? (Age correction NOT permitted.)

(3) Is the STS work-related as determined by physician or other licensed health care professional, in consultation with the employer? This determination must be made in accordance with CFR 1904.5.

e. If during any medical evaluation or audiometric examination, the employee is identified as potentially unable to perform the job safely or has a hearing profile equal to or worse than that listed in Table 2 below, the employee and employer shall receive a written notification of the requirement to perform an Ability and Risk Evaluation. The written notification shall include results of the medical and work history with special emphasis on the association of any health conditions that may impair ability to safely perform the work expected in the position held (e.g., hear commands or signals) or the ability to wear appropriate personal hearing protection equipment in a hazardous noise area.

Table 2						
Frequency (Hz)	500	1000	2000	3000	4000	6000
Hearing Threshold Level (dB)	25	25	25	35	45	45

4.8.3.16 The requirements for handling threshold shifts are as follows:

a. The STS may be computed using the age corrections described in OSHA 29 CFR 1910.95, Appendix F;

b. Each employee's annual audiogram shall be compared to his/her baseline audiogram to determine if the audiogram is valid and to determine if an STS has occurred;

c. The baseline of each ear shall be separately tracked;

d. A physician, audiologist, or CAOHC-certified Occupational Hearing Conservationist shall perform the hearing test and the comparison;

e. If an STS is identified and a confirmation audiogram is not performed within 30 days, the STS shall become a confirmed STS by default;

f. If the identified STS is followed by a confirmation audiogram and the confirmation audiogram does not confirm the STS, this second audiogram replaces the first one that suggested the STS;

g. If the identified STS is followed by a positive confirmation audiogram, the better of the two shall become the confirmed STS;

h. An audiologist or physician with hearing conservation experience shall review problem audiograms, including those showing an STS (either by confirmation within 30 days or by default) and shall determine whether there is a need for further evaluation.

i. When further evaluation is warranted, the employee shall be referred to an otolaryngologist or other qualified physician, or to an audiologist for further medical evaluation. See Section 4.8.3.l7, Referrals; and

j. A new baseline reference audiogram shall replace the original or previous baseline audiogram (in separate ears and not both ears, unless both ears meet criteria listed below) when:

(1) The reviewer determines that an STS is persistent on a retest (conducted no sooner than six (6) months later). The baseline shall be revised to the lower (more sensitive) value for the average. Employees assigned a new baseline audiogram, as a result of an STS, shall receive an audiometric re-evaluation six (6) months after this assignment to determine if a further STS has occurred.

(2) A "significant improvement" is shown if the average of thresholds at 2000, 3000, and 4000 Hz for either ear shows an improvement of 5 dB or more from the baseline and the improvement is persistent in the next test. The baseline shall be revised to the lower (more sensitive) value for the average. Age corrections shall not be used when determining "improvement."

(3) An audiologist or physician determines that reasons exist for not revising an employee's baseline audiogram. In such cases, the audiologist or physician must document the reasons for not revising the baseline.

k. The employee, employer, and environmental health staff shall be notified of an STS in writing within 21 days of the determination of the STS;

l. If the employee's uncorrected hearing threshold level, without age correction (averaging 2k, 3k, and 4k Hz) is 25 dB or greater above audiometric zero in the same ear as the STS, a work-relatedness determination shall be made for purposes of OSHA recordability. Based on the best available information, a physician or other licensed health care professional, in consultation with the employer, shall determine, in accordance with CFR 1904.5, whether the noise-induced STS is work-related;

m. Unless a physician has determined that the STS is not work-related, the following actions shall be taken:

(1) The employee's management and responsible safety and health office shall be notified of the occurrence of an STS or other work-related hearing loss.

(2) The work-related hearing loss shall be relayed to the Center's mishap reporting system.

(3) The employee shall be notified and examined by a physician or an audiologist for proper HPD fit.

(4) HPDs shall be re-evaluated for effectiveness, and the employee shall be refitted as necessary with HPDs offering a greater sound attenuation.

(5) The employee shall be trained or retrained on the hazardous effects of noise and the need to use hearing

protection.

(6) The work environment(s) shall be investigated to determine if work practices or changes in equipment or procedures have increased the noise hazard. Abatement actions shall be instituted, as necessary, with engineering controls employed first to reduce the potential for exposure to the action level.

(7) Any administrative and work practices being utilized to reduce noise exposures shall be re-evaluated for effectiveness.

n. When an OSHA-recordable STS has occurred, the employer shall record the condition as a hearing loss on the OSHA 300 Log and maintain the record in accordance with 29 CFR 1904, Recording and Reporting Occupational Injuries and Illnesses;

o. The Medical Director shall determine if reassignment to work in a low noise area is indicated to prevent further hearing impairment and shall advise the employer accordingly;

p. The employer shall have ultimate authority and responsibility for employee reassignment; and

q. Where the same employee experiences any subsequent work-related STS as a result of occupational noise exposure, the work environment(s) shall be re-evaluated. If the employee continues to work in the hazardous noise area(s), engineering and/or administrative controls shall be employed that reduce that employee's noise exposure to no more than 50 percent of what was previously allowed for that employee.

4.8.3.17 Employees shall be referred to an otolaryngologist or other physician knowledgeable in hearing conservation or to an audiologist based on the following criteria:

a. Where further medical testing or referrals are needed, the employee shall be notified of the reason for the testing or need for referral;

b. When the examining physician refers an employee to a specialist, communication of relevant medical data shall be provided to the specialist; and

c. The following criteria are based upon the American Academy of Otolaryngology-Head and Neck Surgery referral criteria and shall be used for referral to a qualified physician or otolaryngologist for more comprehensive testing and/or treatment.

(1) Average hearing threshold level at 500, 1000, 2000, and 3000 Hz greater than 25 dB HTL in either ear (Baseline Audiogram).

(2) Difference in average hearing threshold level between the better and poorer ears of more than 15 dB HTL at 500, 1000, and 2000 Hz (Baseline Audiogram).

(3) Change for the worse in average hearing threshold level in either ear compared to the baseline audiogram of more than 15 dB at 500, 1000, and 2000 Hz or more than 20 dB at 3000, 4000, and 6000 Hz (Periodic Audiograms).

(4) Variable or inconsistent responses or unusual hearing loss curves (Periodic Audiograms).

(5) History of ear pain; drainage; dizziness; severe, persistent tinnitus; sudden, fluctuating or rapidly progressive hearing loss; or a feeling of fullness or discomfort in one or both ears within the preceding 12 months (Any Audiogram).

(6) Earwax accumulation sufficient to completely obstruct the view of the eardrum with otoscopy or foreign body in the ear canal.

(7) Failure of any of the above criteria accompanied by ear pain; drainage; dizziness; or severe, persistent tinnitus (Any Audiogram).

(8) When an employee suspects that a medical pathology of the ear is caused or aggravated by the wearing of hearing protectors (Any Audiogram).

4.8.3.18 The latest edition of the American Medical Association Guides to the Evaluation of Permanent Impairment shall be used as a guideline in determining hearing impairment.

4.8.3.19 All HCP/hazardous noise training shall be conducted based on the criteria of this section.

a. Each Occupational Hearing Conservationist shall receive CAOHC certification training. A CAOHC refresher course shall be taken every five (5) years, at a minimum;

b. Occupational health personnel who conduct assessments shall receive initial training on their Center's hearing conservation program and in the hazards of noise exposure;

c. Employees and supervisors of employees enrolled in an HCP shall receive annual training in the hazards of noise exposure; and

d. Annual training in the hazards of noise exposure shall include, at a minimum:

(1) An overview or review of the 29 CFR 1910.95, the Center's and employer's (if a contactor) HCP, and this section.

(2) The effects of hazardous noise and ototoxic substances on hearing (including permanent hearing loss).

(3) Identification of the hazardous noise sources in the employee's work areas.

(4) Factors that may contribute to hearing loss.

(5) Noise-control principles.

(6) An explanation of the audiometric testing procedure and the purpose of audiometric testing.

(7) The employee's role and responsibilities in the HCP.

(8) The purpose of HPD's including:

(a) The advantages, disadvantages, and attenuation characteristics of various types of HPD's;

(b) Instructions on selection, fit, use, and care of HPD's; and

(c) The recommendation that employees use hearing protection whenever there is exposure to hazardous noise during off-duty activities (e.g., lawn mowing, use of firearms).

4.8.3.20 Accurate HCP records shall be maintained as specified in the applicable records retention schedules in NPR 1441.1 and 29 CFR 1910.95 (m), Recordkeeping.

4.8.3.21 Records kept shall fall within the guidelines of NPR 1441.1, NASA Records Retention Schedules and include, but are not limited to:

a. The Center's written HCP and subsequent revisions;

b. A comprehensive registry of all personnel placed in the HCP;*

c. Audiometric tests and records;*

d. Background sound pressure levels of audiometric test rooms;

e. Data and information concerning repair of audiometers;

f. Hazardous noise areas and noise levels recorded in those areas;

g. Survey and dosimetry results and recommendations;*

h. Data and information concerning calibration and repair of sound-measuring equipment;

i. The employee's most recent noise-exposure assessment;

j. Special noise studies;

k. Remedial actions recommended/taken;

l. Engineering controls installed;

m. Results of design and operational reviews;

n. Training; and

o. Hearing protector selection.

NOTE: Items above marked with an asterisk (*) shall be maintained for at least 30 years.

4.8.3.22 Documentation of other official HCP-related activities shall be as follows:

a. Audiometric test records shall include, as a minimum:

(1) Hearing threshold levels at 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz.

(2) The audiometric reference level to which the audiometer was calibrated at the time of testing.

(3) The date of the audiogram.

(4) The name, employee number, and job classification of the employee tested.

(5) The examiner's name and position.

(6) The date of the last calibration of the audiometer.

b. Audiograms and noise-exposure records shall be maintained as a permanent part of an employee's medical record;

c. When noise-exposure-measurement records are representative of the exposures of other individuals participating in the HCP, and to the extent allowable by the Privacy Act, the range of noise levels and the average noise doses shall be made a permanent part of the medical records of those other individuals; and

d. Consistent with the requirements of the Privacy Act and the restrictions in the "Annual Notice and Amendment to Systems of Records," published in the Federal Register, copies of this section, 29 CFR 1910.95, and any other records required by this section, shall be provided upon written request to:

(1) Employees and former employees and their representatives.

(2) Representatives of the U.S. Department of Labor.

(3) The National Institute for Occupational Safety and Health (NIOSH).

(4) NASA Occupational Health Program personnel.

4.9 Ergonomics

4.9.1 Policy

4.9.1.1 To prevent musculoskeletal disorders (MSD) in the workplace, Centers shall implement an ergonomics program to ensure proper fit between the job tasks, equipment, and the worker performing the duties.

4.9.2 Responsibilities

4.9.2.1 The CHMO shall establish and maintain an ergonomic policy that reflects Federal guidance and best practice initiatives, provide coordination and communication with the NASA Centers, and provide technical and subject matter expertise.

4.9.2.2 OCHMO shall also assess Center compliance with this policy.

4.9.2.3 Center OH Managers shall be responsible for developing and maintaining a written ergonomic program, which complies with the requirements stated in this policy and is consistent with current professional guidance from organizations such as OSHA and NIOSH.

4.9.3 Process Description

4.9.3.1 Each Center shall have a written ergonomics program that includes at least the following elements:

a. Management support and employee participation;

b. Worksite analysis;

c. Job analysis;

d. Medical management;

e. Training; and

f. Program evaluation.

4.9.3.2 Management support of the ergonomics program shall be demonstrated at a minimum by approving a Center ergonomic policy. This starts at program/project initiation with the incorporation of ergonomic principles and requirements in procurement of furniture and equipment. Employees (and their designated representatives) shall have ways to report "MSD signs and symptoms," obtain responses to reports, and participate in developing, implementing, and evaluating each element of the program. Policies or practices shall not discourage employees from participating in the program or from reporting MSD's signs or symptoms. A method for employees to report MSD signs and symptoms and to get prompt responses shall be established. Employee reports of MSD signs and symptoms shall be evaluated to determine whether a MSD has occurred. Information to employees shall be periodically provided that explains how to identify and report MSD signs and symptoms.

4.9.3.3 A worksite analysis shall be performed where existing hazards and conditions exist, and where operations or areas with the potential to create hazards exist. This includes scrutiny and tracking of injury and illness records to identify patterns of traumas or strains that may indicate the development of MSD's. Whenever new ergonomic hazards are introduced to operations, a worksite analysis shall be performed.

4.9.3.4 Operations with significant ergonomic risk factors present shall be analyzed to fully define the ergonomic risk factors that result in MSD hazards. The ergonomic hazards must be eliminated, reduced to the extent feasible, or materially reduced using an incremental abatement process.

4.9.3.5 A medical intervention/management system shall be designed and implemented to eliminate or reduce the risk of development of MSD's through early identification and treatment by qualified medical providers. Concerted efforts shall be made to return employees to work as soon as possible.

4.9.3.6 Employees shall be provided proper ergonomic training to make employees aware of the ergonomics program, MSD hazards, and methods for eliminating MSD hazards.

4.9.3.7 The Ergonomic Program shall be re-evaluated periodically and identified deficiencies corrected. Metrics that document the efficacy of the ergonomics program shall be maintained and used to improve the program and to reduce MSD risks.

4.10 Indoor Air Quality (IAQ)

4.10.1 Policy

4.10.1.1 NASA recognizes the negative impact poor IAQ can have in the workplace on injuries, illnesses, and adverse health symptoms affecting employee productivity, morale, and absenteeism. This requirement

establishes minimum standards for all NASA Center IAQ programs with regard to complaint investigation, IAQ testing, communication of IAQ information to employees, mold remediation, recordkeeping, and general requirements.

4.10.2 Responsibilities

4.10.2.1 The CHMO shall establish and maintain an IAQ policy that is reflective of Federal guidance, provide coordination and communications with the NASA Centers, and provide technical and subject matter expertise.

4.10.2.2 The CHMO shall provide IAQ program oversight and assess compliance with this policy.

4.10.2.3 Centers shall ensure that they have a written IAQ program that is designed to ensure all indoor environments are safe and free from recognized hazards for human occupancy.

4.10.2.4 Centers shall ensure that their IAQ programs include provisions for:

a. Investigating IAQ complaints, offering technical guidance and support on minimizing the impact of constructions, renovation, and maintenance activities on IAQ, and recommending corrective actions to resolve all IAQ problems;

b. Evaluating the medical condition of employees who are potentially affected by exposure to indoor air contaminants;

c. Ensuring building heating, ventilation, and air-conditioning (HVAC) system designs and modifications meet recommended standards, including the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) guidelines for relative humidity and temperature, and do not adversely affect local exhaust ventilation systems used to control hazardous materials;

d. Providing housekeeping services that minimize dust accumulation and food wastes and maintain carpets in a manner which is sufficient to minimize the likelihood of IAQ complaints; and

e. Ensuring indoor work areas are free from contaminants (i.e., visible mold, pesticides, ozone from copiers, open chemical containers, outdoor sources, etc.) that contribute to IAQ problems.

4.10.3 Process Description

4.10.3.1 General IAQ investigations shall involve the cooperation of several organizations at a Center, including the affected individuals, industrial hygiene (IH), occupational medicine, building managers, janitorial staff, maintenance, and operations staff.

4.10.3.2 IAQ investigations shall follow four basic steps (these are not necessarily distinct stages and some may be intermixed depending on the situation and discretion of the investigator):

a. Identification of an IAQ concern;

b. Investigation of the IAQ concern. This shall be done by the appropriate IH organization;

c. Collection of appropriate and representative samples; and

d. Evaluation of data, recommendations and conclusions, and report generation.

4.10.3.3 An open, transparent, and effective communication process with affected occupants regarding an IAQ investigation's findings and subsequent correct actions shall be developed and followed for IAQ problems that have affected a significant amount of NASA facility occupants and/or raised serious health concerns. This process shall include both verbal and written communication and shall be continued until the IAQ concern is effectively resolved. Communication efforts shall start at the earliest stages of an IAQ investigation.

4.10.3.4 Employees shall be notified about building conditions and policies that may have a significant adverse IAQ impact (e.g., planned renovation, remodeling, maintenance or pest control activities) on indoor

air quality and operational activities.

4.10.3.5 An effective process for moisture control and mold remediation shall be developed at all Centers. When mold is found to be present, the Center shall work with their industrial hygiene organization to develop a plan for remediation. The methods used for mold remediation depend on the type of material and the extent of the area with mold growth but shall be appropriate with current professional guidelines (see Section 4.11.5, References).

4.10.3.6 The following general IAQ requirements shall be incorporated into each Center's IAQ program:

a. Construction and maintenance activities in occupied buildings shall be planned and managed to minimize the release of dust, vapors, fumes, and other air contaminants to protect workers and building occupants. For example, paint vapors shall be minimized using low-emitting products and scheduling or ventilation;

b. The purchase of building and office materials such as carpet, upholstery, cushions, adhesives, and furniture shall be low volatile organic compound emitting and shall not significantly contribute to IAQ problems;

c. Carpet maintenance shall be maintained in an effort to ensure carpets do not become a source of dust, mold, bacteria, and other indoor air contaminants;

d. Integrated pest management techniques shall be used to reduce IAQ problems created during pesticide applications;

e. Parked vehicles, such as those in loading docks, shall not be allowed to remain running in close proximity to building air intakes where exhaust contaminants may get entrained into the building;

f. Designated smoking areas shall not be near air intake systems or entry/exit doors where smoke may be entrained into the building;

g. Water spills and leaks shall be immediately attended to and water leaks reported without delay; and

h. Decorative plants shall be maintained properly as to not create an environment for mold or bacteria.

4.10.3.7 At the conclusion of the IAQ investigation, results shall be evaluated and conclusions and recommendations derived. A summary of this information shall be compiled into a report and distributed to all affected parties.

4.10.3.8 Records shall be maintained to document compliance with this chapter. The following records shall be maintained for all IAQ investigations in accordance with NPR 1441.1, NASA Records Retention Schedules and other applicable NASA recordkeeping requirements:

a. A log of IAQ complaints;

b. All IAQ interview questionnaires and forms;

c. Any monitoring and IH sampling conducted during the investigation; and

d. All IAQ reports with conclusions and recommendations.

4.11 Biosafety

4.11.1 Policy

4.11.1.1 It is NASA policy to protect the health of workers and the public from the risks associated with the use of hazardous biological agents by minimizing or eliminating exposure of workers, other persons, and the outside environment.

4.11.1.2 The scope of this policy is limited to projects that involve direct work and handling of biological hazards. This includes, but is not limited to, non-medical biological laboratory workers and animal handlers.

This section encompasses ground processing aspects of biological agents intended for use on flight experiments.

4.11.1.3 This policy does not apply to potential or incidental exposure to biological hazards because of a complication to one's normal industrial work (such as a plumber or custodian) or to clinical medical functions. These aspects shall be covered under program- or project-specific plans and procedures.

4.11.2 Responsibilities

4.11.2.1 OCHMO is responsible for:

a. Assessing biosafety as a portion of their periodic onsite reviews;

b. Reviewing and approving all intended uses of prions prior to their use at any NASA Center or Facility, or by any NASA or NASA Contractor personnel; and

c. Reviewing and approving all uses of Biosafety Level 3 (BSL-3) agents and Animal Biosafety Level 3 (ABSL-3) animals prior to their presence at any NASA Center or Facility, or use by any NASA or NASA Contractor personnel.

4.11.2.2 Center Medical Directors are responsible for:

a. Designing medical support services in consultation with representatives from the institutional environmental health and safety and principal investigators;

b. Approving all uses of BSL agents and ABSL animals on a case-by-case basis prior to their presence on Center;

c. Approving uses all of genetically-modified agents or recombinant deoxyribonucleic acid (DNA) molecules on an each case basis prior to their presence on Center;

d. Ensuring the clinic is cognizant of potential hazards encountered by the biohazard workers; and

e. Reviewing affected workers previous and ongoing medical conditions, current medications, allergies to medicines, animals, and other environmental proteins and prior immunizations; and determining what medical services are needed to permit safe performance of the duties of the position.

4.11.2.3 Center Environmental Health organizations are responsible for:

a. Reviewing and approving all proposed facility designs and equipment purchases for use with genetically-modified agents or recombinant DNA molecules or Biosafety Level 2 (BSL-2) or higher agents and ABSL or higher animals, prior to their procurements;

b. Reviewing and approving all proposed uses, operational tasks and associated equipment, and containment controls of genetically modified agents or recombinant DNA molecules prior to their use;

c. Reviewing and approving all proposed uses, operational tasks and associated equipment, and containment controls of genetically-modified agents or recombinant DNA molecules or BSL-2 or higher agents and ABSL or higher animals prior to their use. Particular attention shall be given to procedures that impart energy to a microbial suspension or that produce aerosols and the knowledge and experience of the intended user; and

d. Inspecting and certifying biological safety cabinets (BSC) and other containment devices before use and at least annually to ensure they conform to the requirements of this section.

4.11.2.4 Supervisors shall be responsible for:

a. Providing a description of the requirements, proposed tasks, and responsibilities of each position involving hazardous biological agents to the clinic to guide the evaluation; and

b. Cooperating with environmental health professionals to identify the potential worksite health hazards.

4.11.3 Process Description

4.11.3.1 Except as otherwise defined in this policy, Centers shall classify biosafety levels (BSL); provide levels of containment; use the standard practices, safety equipment, facility requirements and training requirements; and handle biological agents, according to the recommended criteria in the Centers for Disease Control (CDC) publication, Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition. In particular, the standard practices and recommendations for safety equipment and facility requirements in Section IV and Table 1 shall be followed.

4.11.3.2 For purposes of this policy, the risk associated with Animal Biosafety Levels (ABSL) and the BSL described in the CDC BMBL are equivalent. All BSL requirements apply to ABSLs. Equivalent control measures shall be taken to assure personnel safety from potential exposures to animal borne biological agents. The co-application of BSL's and ABSL's shall be determined by a protocol driven risk assessment. The hazard and exposure controls shall be adjusted accordingly.

4.11.3.3 For purposes of this policy, the applicable recommended practices, requirements, safety equipment, training, and facility safeguards described in the latest edition of the following documents and their appendices are mandatory.

(1) Centers for Disease Control (CDC) publication, Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition, http://www.cdc.gov/od/ohs/biosfty/bmbl5/bmbl5toc.htm.

(2) NIH Guidelines for Research Involving Recombinant DNA Molecules, http://www4.od.nih.gov/oba/rac/guidelines/guidelines.html.

(3) United States Department of Transportation (DOT), http://www.dot.gov/.

(4) International Civil Aviation Organization http://www.icao.int/ requirements for transportation of etiologic agents, and infectious substances.

(5) Foreign governments, and the International Civil Aviation Organization, http://www.icao.int/.

(6) Public Health Service Foreign Quarantine regulations, http://www.cdc.gov/ncidod/dq/isolation_quarantine/index.htm.

(7) United States Department of Agriculture requirements, http://www.usda.gov/wps/portal/usdahome.

(8) National Academies Publication, Guide for the Care and Use of Laboratory Animals, http://www.nap.edu/readingroom/books/labrats/.

(9) Public Health Service Foreign Quarantine regulations, http://www.cdc.gov/ncidod/dq/isolation_quarantine/index.htm.

4.11.3.4 Centers and Facilities shall make mandatory use of the required documents in this section for all work with experimentally infected animals housed in research facilities and in the maintenance of laboratory animals that may naturally harbor zoonotic infectious agents.

4.11.3.5 Centers shall develop a written Biosafety Plan that outlines their plan for adhering to the mandatory requirements of the CDC, National Institutes of Health, and United States Department of Agriculture, including provisions for administrative controls, engineering controls, work practices, decontamination, infectious waste management, and disposal.

4.11.3.6 Centers using biologically hazardous substances, agents, and/or animals shall develop a biosafety operations manual that identifies all of the hazards that may be encountered and that specifies practices and procedures designed to minimize or eliminate exposures to those hazards.

4.11.3.7 A risk assessment based on the origin of the cells or tissues (species and tissue type), as well as the source (recently isolated or well characterized) shall be conducted for all work with mammalian tissues or cells. Human and other primate cells shall be handled using BSL-2 practices and containment. All work shall

be performed in a BSC and all material decontaminated by autoclaving or disinfection before discarding. Personnel working with human cells and tissues shall work under the policies and guidelines established by the Center's Biosafety Plan and Operations Manual.

4.11.3.8 Centers shall have integrated pest management (IPM) programs that integrate housekeeping, maintenance, and pest control services to control pests such as flies and cockroaches. Each IPM program shall be site-specific, and tailored to the environment where applied. IPM issues and requirements shall be addressed in a facility's planning, design, and construction to provide an opportunity to incorporate features that help exclude pests, minimize pest habitat, and promote proper sanitation in order to reduce future corrections that can disrupt operations.

4.11.3.9 The following biological agents are prohibited from use at all NASA Centers:

a. Selected Agents covered under 42 CFR part 73, http://www.cdc.gov/od/sap/42_cfr_73_final_rule.pdf; 7 CFR 331 and/or 9 CFR 121, http://a257.g.akamaitech.net/7/257/2422/01jan20051800/edocket.access.gpo.gov/2005/pdf/05-5063.pdf ;

b. Prions causing transmissible spongiform encephalopathies; and

c. BSL- 4 biological agents.

4.11.3.10 Centers shall conform to the following requirements when transportating infectious and/or etiologic agents:

a. Materials known to contain or reasonably expected to contain a pathogen (including bacteria, viruses, rickettsiae, parasites, fungi) or other agent, such as a prion, that can cause disease in humans or animals, or infectious substances as purified or concentrated cultures, body fluids, or tissues, shall be appropriately packaged for transportation; and

b. Packages shall be designed to withstand rough handling and other forces experienced in transportation, such as changes in air pressure and temperature, vibration, stacking, and moisture. Hazard communication shall include shipping papers, labels, markings on the outside of packaging, and other information necessary to enable transport workers and emergency response personnel to correctly identify the material and respond efficiently in an emergency situation.

4.11.3.11 Centers shall adhere to the following training requirements when using biologically hazardous substances, agents, or animals:

a. Personnel using biologically hazardous substances, agents, or animals shall be educated about the biohazards to which they may be occupationally exposed, the types of exposures that place their health at risk, the nature and significance of such risks, as well as the appropriate first aid and follow up for potential exposures. They shall read and follow the required practices and procedures and shall consult with safety or health professionals with regard to risk assessment prior to use of those substances or organisms;

b. Refresher training shall be provided at least annually, at the time of any significant change in job responsibility, and follow recognized and suspected exposures;

c. Centers or Facilities conducting BSL 1-3 and ABSL 1-3 level experiments shall use personnel who are adequately trained and experienced in this special work;

d. Personnel using viable biological agents, laboratory animals, genetically modified organisms, and/or recombinant DNA molecules shall be accordingly experienced and knowledgeable in their use; and

e. NASA and NASA Contractor shippers and carriers shall be trained on the applicable transportation regulations so they can properly prepare shipments and recognize and respond to the risks posed by these materials.

4.11.3.12 The following criteria for medical support shall be met by all Centers for work involving hazardous biological agents, substances, and animals:

a. Personnel working with human cells and tissues shall be enrolled in an occupational medicine program specific for bloodborne pathogens. Reference NPR 1800.2, Section 3.2 and Appendix F;

b. Personnel using BSL or ABLS agent, laboratory animals, genetically modified organisms, and/or recombinant DNA molecules shall be fully informed of the available medical support services and encouraged to utilize them;

c. Personnel, who may be occupationally exposed to human pathogens in research settings, shall receive a pre-placement medical evaluation;

d. Medical support services shall be based upon detailed risk assessments and tailored to meet the organization's need and shall be provided for all personnel regardless of employment status. Occupational medical care provided for contractors, students, and visitors by their employers or sponsors shall be equivalent to that provided by NASA for exposures, injuries, or other emergencies experienced at the worksite. Plans for providing medical support for workers shall be completed before work actually begins. The medical provider shall be knowledgeable about the nature of potential health risks in the work environment and have access to expert consultation; and

e. Medical support services for biomedical research facilities shall be evaluated annually. Joint annual review of occupational injury and illness reports by healthcare providers, environmental health, and safety representatives shall be performed to assist in revision of exposure prevention strategies to minimize biological health hazards that cannot be eliminated.

4.11.3.13 Disposal of wastes contaminated with biological agents, genetically modified agents, recombinant DNA molecules, and/or potentially infectious materials shall be handled in accordance with the Center's infectious, biological, and/or hazardous waste disposal procedures and policies. Prion-contaminated instruments and other materials shall be discarded and destroyed by incineration with a minimum secondary temperature of 1000 degrees C (1832 degrees F).

4.12 Food Safety

4.12.1 Policy

4.12.1.1 NASA shall mitigate potential food safety hazards by establishing a primary prevention approach to food safety that encompasses planning and reviews of all proposed projects, processes, and procedures to mitigate potential food safety hazards.

4.12.1.2 The Food and Drug Administration (FDA) Food Code shall be the minimum standard for food service operations at NASA facilities.

4.12.1.3 Food safety shall be accomplished through the implementation of Hazard Analysis Critical Control Point (HACCP) principles, risk-based inspections and controls, and FDA-recommended program standards.

4.12.1.4 Overall authority for Agency food safety is delegated to the NASA Senior Environmental Health Officer (SEHO) by the NASA Director of Occupational Health.

4.12.1.5 Where conflicts between the latest FDA Food Code, this section of NPR 1800.1 and any additional state or local "food code" requirements exist, whichever is most protective shall be applied. Centers shall coordinate questionable conflicts between the latest FDA Food Code and this section of NPR 1800.1 with the SEHO and shall coordinate questionable conflicts between either the FDA Food Code or this section of the NPR with state and local "food code" with the local authorities.

4.12.1.6 This section does not apply to spaceflight operations.

4.12.2 Responsibilities

4.12.2.1 The CHMO shall be responsible for managing, evaluating, and reviewing the NASA Food Safety Program to ensure compliance with regulatory and Agency requirements. Specifically, the CHMO shall be

responsible for:

a. Providing technical guidance to Centers' food service organizations on related food safety matters/concerns;

b. Periodically conducting surveys/inspections of each Center's food services for compliance with NASA requirements and applicable local, state, and Federal regulations;

c. Investigating Agency-wide complaints associated with food safety concerns;

d. Coordinating with outside agencies, as applicable, on food safety and related environmental health matters; and

e. Notifying, by the most expeditious means, the Agency Director of Occupational Health of food-related incidents as they are reported by the Centers.

4.12.2.2 Center Directors, including Headquarters (HQ) and Component Facility Directors, shall be responsible for:

a. Ensuring compliance with the provisions in this section; and

b. Ensuring all Center Food Safety Program elements are implemented and maintained.

4.12.2.3 Centers shall be responsible for:

a. Providing for design/procedure reviews, technical assistance, and consultation with all Center organizations on matters concerning food sanitation;

b. Performing at least quarterly, onsite, risk-based, food safety audits of food establishments; identifying and assessing the hazards and associated risks; determining and implementing critical controls and procedures necessary to reduce risk of foodborne illness; and providing a program of active managerial control;

c. Maintaining accurate and complete survey and inspection data records for the last three months or last three inspections, whichever time span is greater;

d. Providing consultation in the preparation of state and/or local permit applications for food service activities and maintaining copies of those documents and permits, with associated records, to ensure compliance monitoring and reporting is carried out in a timely manner;

e. Identifying and providing support concerning certification and training requirements for food managers and food service workers in order to promote a comprehensive awareness and active managerial control of risk factors most commonly associated with foodborne illnesses;

f. Notifying, by the most expeditious means, the CHMO of major food-related incidents as they are reported;

g. Correcting all inspection violations in a reasonable length of time;

h. Notifying their local and state health departments, the CDC, and/or the Department of Homeland Security, as applicable, of foodborne disease outbreaks;

i. Assuring that food handler physical examinations are provided to food services workers, through NASA Health Clinics, for individuals who work at food establishments on NASA property or under NASA jurisdiction and conducted in accordance with the requirements of Chapter 2.9 of this NPR;

j. Maintaining current food safety policy, and/or procedures, which assign responsibility, accountability, and authority to pertinent Center organizations, departments, and employees;

k. Assuring that Center Senior Management is routinely appraised of the status of food safety issues and problems;

l. Assuring that food sanitation personnel and food inspection personnel are included in the procurement of

food establishment equipment and facility design reviews;

m. Assuring that food establishments implement food management plans that incorporate active managerial control, HACCP principles, training requirements, hygiene standards, cleaning and sanitary practices, illness reporting agreements, food hazards of significance, monitoring procedures, record keeping, corrective action processes, and proper certification of food service workers and food inspection personnel;

n. Assuring that food service personnel report symptoms of illness that may be transmissible through food; and

o. Assuring that Critical Control Points and Critical Limits are included in recipes or recipes are controlled via an overall policy that provides time and temperature limits based on the current FDA Food Code.

4.12.3 Process Description

4.12.3.1 All food served or vended at NASA Centers and Component Facilities shall be clean and free of pathogenic organisms, contamination, and organic or inorganic toxins (including those of bacterial origin). This applies to transporting, storing, preparing, serving, and vending of food provided/available at NASA Centers and Component Facilities. This applies equally to all appropriated funded, non-appropriated funded, organizational, contractor, and/or private association food activities held on NASA Centers and Component Facilities.

4.12.3.2 Centers and Component Facilities shall comply with HACCP principles and the United States Department of Health and Human Services (HHS), FDA Food Code.

4.12.3.3 Centers shall have a written food safety policy that requires them to ensure that an HACCP or equivalent management system includes and implements a process of self-inspection and continuous improvement. The management system shall provide for active managerial control and the purposeful incorporation of specific actions or procedures into the operation of food service establishments to attain control over foodborne illness risk factors. Unique conditions within each facility shall be considered during the development of food safety plans. A generic plan is not acceptable. The food safety plan shall identify potential hazards of significance and include preventive measures to ensure and improve food safety. Critical Control Points shall be effectively controlled.

4.12.3.4 Constraints/controls imposed upon substances/operations subject to the provisions of this section shall be no less than those required by applicable regulatory authorities and shall include any additional special constraints deemed necessary by the NASA SEHO as a result of unique or operational characteristics.

4.12.3.5 All records generated by following these procedural requirements, including but not limited to those required by local, state, or Federal statute or regulation, and the most recent edition of the FDA Food Code, shall be maintained in accordance with NPR 1441.1, NASA Records Retention Schedules.

4.12.3.6 All records shall be available for review by the NASA SEHO or designee and Federal, state, and/or local food safety inspectors. Examples of records include applicable training records, inspection records, temperature logs, food receiving logs, maintenance logs, and dishwasher logs.

4.12.3.7 Waivers from some or all NASA Food Safety Program requirements described in this section shall be determined on a case-by-case basis by the NASA SEHO. Requests for waivers shall be submitted to the NASA SEHO in writing for approval by the CHMO prior to their initiation. Authorizations may be withdrawn at any time for violations of the granted waiver or other regulatory non-compliance. Centers shall provide copies of requests for waivers to the OSMA if they are deemed to affect the NASA workforce, and the appropriate union, as applicable.

4.12.3.8 Where Agency surveys or inspections indicate non-compliance with NASA-approved procedures and controls, the responsible organization for that activity shall correct all discrepancies and notify the NASA SEHO and the Center OH Office when remediation has been completed.

4.12.3.9 The NASA SEHO and the Center OH Office shall be immediately advised of major accidents,

incidents, or emergencies involving food safety.

4.12.3.10 Centers shall:

a. Ensure that the requirements and provisions of this section are included in all food and beverage services contracts, subcontracts, and other applicable contracts;

b. Conduct a continuing program of inspection and surveillance of all food establishments by individuals who are qualified by training, certification, or standardization to conduct food service inspection and surveillance.

c. All Center food service establishments shall meet or exceed the minimum acceptable requirements established by NASA directives, as well as applicable Federal, state, and local regulations for the safe handling of food;

d. Remove from service or sale all food items suspected to be contaminated, unwholesome, or otherwise deemed unfit for consumption;

e. Ensure design reviews are conducted for new or redesigned food establishments, as well as for facilities that intend to make significant changes to the existing menu or theme;

f. Review plans for temporary events and provide recommendations concerning food safety provisions;

g. Ensure that Center policy requires prompt notification of a responsible individual in the event of an emergency that might contaminate food or prevent potentially hazardous food from being held at safe temperatures;

h. Ensure that training is provided to maintain any certification requirements food service employees may need;

i. Maintain the most recent copy of the inspection form and have it available for review by inspection personnel and food installation customers;

j. Ensure all food handlers report to the Center medical clinic or their personal physician when any symptoms of infections and/or communicable diseases are present;

k. Ensure that all food handlers returning to work after an illness-related absence associated with any of the conditions below are medically cleared:

(1) A diagnosed illness of Norovirus, typhoid fever (Salmonella typhi), shigellosis (Shigella spp.), E. Coli O157:H7 infection (or other EHEC/STEC (enterohemorrhagic or Shiga

toxin-producing E. Coli), or hepatitis A virus (hepatitis A).

(2) Symptoms of gastrointestinal illness such as diarrhea, fever, vomiting, jaundice, or sore throat with fever.

(3) A lesion, boil, or wound containing pus that is open or draining and is on the hands, wrists, or exposed portions of arms.

(4) Illness from consuming food that was implicated in or caused an outbreak.

l. Ensure that organizations operating vending machines that dispense food or beverages provide the Center OH Office with a list of onsite vending machines and their locations where potentially hazardous food items are dispensed;

m. Ensure that food handler physical examinations are provided and Hepatitis A inoculations made available to food services workers through NASA Health Clinics for individuals who work at food establishments on NASA property or under NASA jurisdiction;

n. Maintain current food safety policy, and/or procedures, which assign responsibility, accountability, and authority to pertinent Center organizations, departments, and employees;

o. Ensure that Center Senior Management is routinely apprised of the status of any food safety issues;

p. Ensure that food establishments' food management plans are established to implement sound food safety practices;

q. Ensure that Critical Control Points and Critical Limits are included in recipes or an overall food policy provides time and temperature limits based on the current FDA Food Code; and

r. Ensure that vermin are controlled to prevent the creation of a health hazard to humans.

4.12.4.11 New and redesigned facilities shall be reviewed by the Center OH Office and meet the principles outlined in state and local codes and the FDA Food Code, unless they cannot be technically accomplished. All design deviations and changes that may affect the Center's Food Safety Program requirements shall be coordinated with appropriate Center personnel and approved in advance by the Center's OH representative.

4.12.4.12 All Centers' bottled water dispensers shall be in compliance with Federal, state, and local regulations.

4.12.4.13 Only bottled water approved by the Center shall be placed in bottled water dispensers. Under no circumstances, shall empty bottles be refilled by anyone other than the processor.

4.12.4.14 All organizations procuring bottled water shall ensure that:

a. No bottled water dispensers are allowed or bottles of water stored in areas where general hazards or contamination of any kind pose a threat to users under normal operations;

c. Bottled water dispensers are maintained in a sanitary condition; and

d. All dispensers have equipment numbers.

4.13 Radiation, General

4.13.1 Policy

4.13.1.1 NASA Centers shall maintain and preserve the health of the NASA workforce by minimizing occupational exposures, eliminating unnecessary exposures, and reducing the potential for accidental exposures to ionizing and non-ionizing (laser, radio frequency, and non-laser optical) radiation.

4.13.1.2 Exposures to ionizing radiation shall be kept ALARA.

4.13.1.3 NASA Centers shall achieve these objectives by the use of firm management controls, safe operating procedures, appropriate equipment, a comprehensive maintenance and surveillance program, adequate shielding, and distance or by limiting personnel exposure time.

4.13.2 Responsibilities

4.13.2.1 The CHMO shall establish and maintain a system of procedures and guidance based on Federal and state regulations and national and international radiation protection standards and recommendations.

4.13.2.2 The SEHO shall serve as the Agency Radiation Safety Manager providing program oversight and assessing compliance.

4.13.2.3 The OSMA shall maintain purview concerning the launching of radioactive materials in accordance with NRP 8715.3 NASA General Safety Program Requirements.

4.13.2.4 Centers shall establish radiation protection programs, staffed with competent personnel, for centralized control and accountability over sources of ionizing and non-ionizing radiation and ensure compliance with applicable Federal, state, and local requirements through independent quality assurance checks. Centers shall also ensure that adequate personnel, facilities, equipment, training, and operational and

emergency controls are maintained for all operations utilizing ionizing or non-ionizing radiation and that such sources are used safely and in accordance with written procedures based on sound radiation protection and engineering principles.

4.13.3 Process Description

4.13.3.1 Each Center in which operations exist which expose workers or the public to ionizing and non-ionizing radiation shall administer a comprehensive radiation protection program to identify and control those radiation exposures in accordance with this chapter.

4.13.3.2 The radiation protection program shall be implemented by written procedures and reviewed at least once every 12 months to evaluate its content and implementation. Whenever practical, this review shall be performed by personnel who do not have direct responsibility over the program. At a minimum, the review shall cover procedural compliance, technical adequacy, implementation, and effectiveness of the program. The annual review shall be documented and provided to the Agency Radiation Safety Officer.

4.13.3.3 Training shall be provided according to the following criteria:

a. Only persons qualified by training shall be authorized to use ionizing or non-ionizing radiation;

b. Training shall be commensurate with the potential hazards and provided prior to unescorted access to restricted areas and prior to receiving occupational exposure during access to restricted areas;

c. Initial and recurrent training shall provide the knowledge, skills, and abilities necessary for maintaining radiation individuals' doses below applicable limits. It shall also provide workers with an understanding of the risks associated with radiation and the means for recognizing and addressing workplace hazards that may lead to increased risks; and

d. Female radiation workers who may be occupationally exposed to the radiation dose threshold (i.e., 100 millirem [mrem]) and their supervisors shall also receive special instructions on the potential health risks of prenatal exposure to ionizing radiation.

4.13.3.4 Physical examinations shall be conducted in accordance with the requirements of Chapter 2.9.

4.13.3.5 A comprehensive inventory of all hazardous ionizing, laser, and Radio Frequency (RF)/microwave sources shall be maintained and periodically verified.

4.13.3.6 A formalized approval process based on hazards analyses shall be implemented prior to the authorization of any source of hazardous ionizing and non-ionizing radiation.

4.13.3.7 To the maximum extent practical, hazards to personnel shall be eliminated by engineering design.

4.13.3.8 Procedures shall be developed or equipment provided to mitigate those hazards that cannot be eliminated by engineering design.

4.13.3.9 Work activities shall be conducted as specified by the controlling written authorization.

4.13.3.10 All sources of ionizing and non-ionizing radiation, whether in use or in storage, shall be controlled and secured from unauthorized access or removal according to the following criteria:

a. Controls shall be commensurate with the hazards and provide flexibility for consideration of other hazards (e.g., industrial safety, industrial hygiene, environmental hazards);

b. Use and storage locations shall afford adequate safety and security;

c. Postings and labeling shall be done in compliance with applicable regulations, this NPR, and other appropriate NASA policies;

d. Restricted areas shall be established and posted to warn individuals that they are entering areas controlled for radiation protection purposes. Access shall be limited to authorized personnel;

e. Smoking, eating, and drinking are prohibited in restricted areas; and

f. Any activity involving ionizing or non-ionizing radiation determined to be a threat to health or property shall be immediately terminated.

4.13.3.11 Written operating, maintenance, service, and emergency procedures shall be provided and maintained with the ionizing or non-ionizing radiation source for easily accessible reference. These procedures shall be commensurate with the hazards, activity, and the education, training, and skills of the individuals who are exposed to the hazards.

4.13.3.12 Personnel trained to evaluate and document the magnitude and extent of radiation emissions and potential radiological hazards and to verify the efficacy of controls and procedures shall periodically perform surveillance and monitoring of approved facilities, equipment, and operations in accordance with the following specifications:

a. Surveillance and monitoring shall be conducted at a frequency based on applicable regulatory requirements, and license conditions and that is commensurate with the potential for changes in the radiation fields and the potential magnitude of the changes;

b. Instrumentation that is used to perform radiation surveys shall be capable of measuring accurately the types of radiation, at the dose rates and under the environmental conditions that may be encountered;

c. Instruments and equipment used for quantitative radiation measurements shall be calibrated for the radiation measured at intervals not to exceed 12 months or per the manufacturer's recommendation;

d. When any component affecting the radiation safety of a system is serviced or replaced, a qualified expert shall perform a survey of the installation to ensure continuity of adequate personnel radiation safety; and

e. Surveillance and monitoring results shall be evaluated and investigations initiated to resolve unexpected results.

4.13.3.13 Exposures to ionizing and nonionizing radiation in excess of the applicable regulatory limits shall be reported to the appropriate regulatory authorities and to OCHMO.

4.13.3.14 Records shall be maintained to document compliance with this chapter, applicable regulations and standards, and with the provisions of Center radiation protection programs. Unless otherwise specified in this chapter, records shall be retained until final disposition is authorized by NASA per NPR 1441.1D, NASA Record Retention Schedules.

4.14 Radioactive Materials

4.14.1 Policy

4.14.1.1 It is NASA policy that the receipt, use, storage or transfer of radioactive materials, or equipment containing such materials, be controlled.

4.14.1.2 NASA Centers shall consider the following as radioactive materials: byproduct, source, or special nuclear material; naturally occurring radioactive material in any other form, or quantity/concentration greater than that found in the natural environment; accelerator-produced radioisotopes; generally licensed items or devices acquired under the general license provisions of Title 10 Code of Federal Regulations (CFR) Part 31, "General Domestic Licenses for Byproduct Material," or issued under the provisions of an Agreement or Nonagreement State; and radioactive waste.

4.14.2 Responsibilities

4.14.2.1 Center Senior Management shall designate competent and qualified personnel to administer a program for control and accountability of radioactive materials.

4.14.2.2 Center Radiation Safety Officer (RSO) and/or Radiation Safety Committee, if applicable, shall

oversee ionizing radiation safety; approve radioactive material usage; ensure activities involving radioactive materials are conducted in accordance with applicable NRC, OSHA, DOT, International Air Transport Association (IATA), state, and NASA requirements, and take prompt corrective measures to appropriately manage or control hazards.

4.14.3 Process Description

4.14.3.1 Each Center with operations potentially exposing workers or the public to ionizing radiation from radioactive materials shall develop written procedures to identify and control those radiation exposures in accordance with this chapter. Operations and activities shall include reasonable controls directed toward reducing exposure, preventing the spread of radiological contamination, and minimizing the generation of contaminated wastes and the release of effluents.

4.14.3.2 All personnel dosimeters that require processing to determine the radiation dose and are used to comply with dose limits shall be processed and evaluated by a dosimeter processor holding current personnel dosimetry accreditation from the National Voluntary Laboratory Accreditation Program (NVLAP) of NIST.

4.14.3.3 Activities involving radioactive materials shall be conducted in accordance with applicable NRC or NRC Agreement State issued licenses for radioactive materials. Installations using sealed gamma-ray sources shall comply with American National Standard N43.3-2008.

4.14.3.4 Personnel using radioactive material must receive radiation safety training in accordance with 10 CFR 19. The training shall also be reflective of guidance contained in NRC Regulatory Guide 8.29. In addition, special training consistent with NRC Regulatory Guide 8.13 shall be provided to females who may be occupationally exposed to the radiation dose threshold (i.e., 100 mrem) and their supervisors.

4.14.3.5 The following criteria shall be met for all operations involving radioactive materials:

a. All procurement, use, storage, transfer, and disposal of radioactive materials shall be pre-approved by the RSO or Radiation Safety Committee, as appropriate;

b. Radioactive materials shall be shipped in accordance with requirements of the DOT as specified by Title 49 of the Code of Federal Regulations (CFR) Part 172, Subpart H and the NRC as specified by 10 CFR 71.5 and 10 CFR 20.1906;

c. Control of radioactive contamination shall be achieved by using engineering controls and worker performance to contain contamination at the source, reducing existing areas of contamination, and promptly decontaminating areas that become contaminated. A surface shall be considered contaminated if either the removable or total radioactivity exceeds NRC Regulatory Guide 1.86 levels. Contaminated surfaces shall be controlled in a manner commensurate with the physical and chemical characteristics of the contaminant, the radionuclides present, and the fixed and removable contamination levels. Contamination levels caused by ongoing work shall be monitored and maintained as ALARA. Additional contamination limits are provided in Appendix Q of NUREG 1556, Volume 7;

d. The dose limits in 10 CFR 20 shall not be exceeded;

e. Operations must be conducted in a manner to maintain exposures ALARA;

f. Radiation levels in unrestricted areas shall be controlled and demonstrate that no person in an unrestricted area can receive a dose equivalent of 2 mrem in any one hour or 100 mrem in one year;

g. To accomplish NASA's objective of maintaining individual doses below regulatory limits and ALARA, each Center shall establish administrative control levels below the regulatory dose limits; and

h. Radiation protection to the embryo or fetus of a pregnant female worker shall be provided in a manner that does not discriminate against the rights of the declared pregnant radiological worker.

4.15 Radiation-Generating Equipment

4.15.1 Policy

4.15.1.1 It is NASA policy that radiation protection requirements be instituted for electronic radiation-generating equipment (e.g., x-ray machine, particle beams) and equipment that produces radiation incidental to its operation (e.g., electron microscope).

NOTE: Radiation-generating equipment is defined as devices which produce ionizing radiation without the use of radioactive material.

4.15.2 Responsibilities

4.15.2.1 Center Senior Management shall designate competent and qualified personnel to administer a program for control and accountability of radiation-generating equipment.

4.15.2.2 The Center RSO and/or Radiation Safety Committee (as applicable) shall oversee ionizing radiation safety; approve radiation generating equipment usage; ensure activities involving radiation-generating equipment are conducted in accordance with applicable OSHA, state, and NASA requirements, and take prompt corrective measures to appropriately manage or control hazards.

4.15.3 Process Description

4.15.3.1 Each Center with operations potentially exposing workers or the public to ionizing radiation from radiation-generating equipment shall develop written procedures to identify and control those exposures in accordance with this chapter.

4.15.3.2 All personnel dosimeters that require processing to determine the radiation dose and are used to comply with the dose limits shall be processed and evaluated by a dosimetry processor holding current personnel dosimetry accreditation from the NVLAP of the NIST.

4.15.3.3 Personnel using radiation-generating equipment must receive radiation safety training in accordance with 10 CFR 19. The training shall also be reflective of guidance contained in NRC Regulatory Guide 8.29. In addition, special training consistent with NRC Regulatory Guide 8.13 shall be provided to females who may be occupationally exposed to ionizing radiation and their supervisors.

4.15.3.4 The following criteria shall be met for all radiation-generating equipment:

a. All procurement, use, transfer, and disposal of radiation-generating equipment shall be pre-approved by the RSO or Radiation Safety Committee, as appropriate;

b. Design and operation of installations using non-medical x-ray shall comply with American National Standard N43.3-2008;

c. Design and operation of installations using x-ray diffraction and fluorescence analysis equipment shall comply with the requirements contained in American National Standard N43.2-2001;

d. Certified cabinet x-ray systems shall be surveyed at intervals not to exceed 12 months to ensure compliance with 21 CFR 1020.40 performance standards;

e. Diagnostic x-ray systems shall be surveyed at intervals not to exceed 24 months to ensure compliance with 21 CFR 1020.30 and 1020.31 performance standards;

f. Diagnostic x-ray systems shall be operated in accordance with a 21 CFR 1000.55 compliant quality assurance program;

g. Special considerations for particle accelerator operations shall include the presence of extremely high dose rates, high energy and heavy particles, activation products, and detection and monitoring difficulties associated with pulsed or high energy radiation;

h. The dose limits in 10 CFR 20 shall not be exceeded;

i. All operations involving ionizing radiation shall be conducted in a manner to maintain exposures ALARA;

j. Radiation levels in unrestricted areas shall be controlled and demonstrate that no person in an unrestricted area can receive a dose equivalent of 2 mrem in any one hour or 100 mrem in any one year; and

k. Radiation protection to the embryo or fetus of a pregnant female worker shall be provided in a manner that does not discriminate against the rights of the declared pregnant radiological worker.

4.16 Laser and Non-laser Optical Radiation

4.16.1 Policy

4.16.1.1 NASA centers shall implement protective requirements for use of lasers and sources of hazardous non-laser optical radiation.

4.16.2 Responsibilities

4.16.2.1 Agency Radiation Safety Manager shall resolve conflicts between NASA, Federal Aviation Administration (FAA), U.S. Space Command, and U.S. Military.

4.16.2.2 Center Senior Management shall designate competent and qualified personnel to administer a program for control and accountability of laser and non-laser optical radiation sources.

4.16.2.3 Center Laser Safety Officer (LSO) or Laser Safety Committee (LSC), as applicable, shall oversee laser and non-laser optical radiation source safety; approve laser and non-laser optical radiation source usage; ensure activities involving laser and non-laser optical radiation sources are conducted in accordance with applicable OSHA, state, and NASA requirements; and take prompt corrective measures to eliminate hazards.

4.16.3 Process Description

4.16.3.1 Each Center with operations potentially exposing workers or the public to laser or hazardous non-laser optical radiation shall develop written procedures to identify and control those radiation exposures in accordance with this chapter. Requirements shall be based on laser classification and ancillary non-beam hazards.

4.16.3.2 General laser operations and hazard evaluations shall conform to the principles and requirements set forth in ANSI Z136.1.

4.16.3.3 Outdoor laser operations shall follow the requirements of ANSI Z136.6.

4.16.3.4 All personnel working with class 3b and 4 lasers and hazardous sources of non-laser optical radiation shall be appropriately trained in safe work practices for controlling or mitigating personal exposures. Training shall be provided to employees working with or potentially exposed to Class 1M, Class 2, Class 2M, or Class 3R laser radiation if used outdoors. The level of training shall be commensurate with the degree of potential laser hazards, both from the laser radiation and non-beam hazards.

4.16.3.5 All uses class 3b and 4 lasers and laser systems shall require a hazard assessment and approval by the LSO or LSC, as appropriate, whether indoors, outdoors, ground based, or airborne.

4.16.3.6 Prior to approval of the Use Authorization, hazards to personnel shall be eliminated, or procedures shall be developed and equipment provided to control those hazards that cannot be eliminated by engineering design.

4.16.3.7 Protective measures shall be employed to ensure that personnel are not exposed to laser and non-laser optical radiation in excess of the maximum permissible limits.

4.16.3.8 Except for lasers used in research, only laser products that comply with Federal Performance Standards shall be procured or manufactured, unless a specific exemption is obtained from the FDA.

4.16.3.9 Class 1 laser systems containing embedded lasers shall be controlled according to the classification

of the embedded laser when engineering controls (e.g., enclosures, interlocks) are defeated.

4.16.3.10 All outdoor laser operations shall meet the following requirements:

a. All outdoor uses of outdoor lasers require LSO and/or LSC approval prior to use. Caution shall be exercised to prevent visual interference in flight hazard zones established around airports;

b. A comprehensive outdoor laser use assessment shall be documented for all Class 3b and Class 4 outdoor lasers;

c. To ensure against inadvertent laser emissions and to mitigate potential catastrophic events, approval of airborne laser operations shall rely on a combination of interlocks and high-speed shutdown systems, as deemed necessary by engineering analyses;

d. Software shall be utilized to provide safety precautions for fast-moving lasers and prevent misdirected laser operation. Laser software development shall be subjected to a software safety analysis per NPR 8715.3, Chapter 3, NASA General Safety Program Requirements. Existing systems are exempt but shall be reviewed to ensure the provision of safety precautions; and

e. Centers shall advise the Agency Radiation Safety Officer of all outdoor laser coordination with the FAA, U.S. Space Command, and/or local military commands and shall copy the Agency Radiation Safety Officer on all outdoor laser correspondence with the FAA, U.S. Space Command, and/or local military commands. This includes all requests for letters of non-objection from the FAA and all other coordination of matters arising from outdoor lasers. Objections to the use of specific outdoor lasers by the FAA or the U.S. Military shall be honored until the CHMO, in conjunction with other NASA organizations, reviews the complaint and authorizes continuation of operations.

4.16.3.11 Maximum permissible exposures for laser radiation are given in ANSI Z136.1. The occupational exposure limits for non-laser optical radiation are contained in ACGIH Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices.

4.17 Radio Frequency Electromagnetic Radiation

4.17.1 Introduction

4.17.1.1 NASA Centers shall implement radiation protection requirements to prevent or control potential risks associated with exposure to electromagnetic fields from RF and microwave sources that operate in the frequency range of 3 kHz and 300 GHz, including, but not limited to: radar systems; spacecraft and vehicle telemetry and communications systems; earth stations; microwave diathermy units; radio frequency generators; and RF heat sealers. Hazards of electromagnetic radiation to ordinance are beyond the escape of this document. Refer to the NASA Explosives Safety document, NSS 1740.12.

4.17.2 Responsibilities

4.17.2.1 Center Senior Management shall designate competent and qualified personnel to administer a program for control and accountability of RF and microwave radiation devices.

4.17.2.2 The Center Radio Frequency Safety Officer shall oversee RF and microwave safety; approve RF and microwave radiation equipment usage; ensure activities involving RF and microwave equipment are conducted in accordance with applicable OSHA, state, and NASA requirements, and take prompt corrective measures to eliminate hazards.

4.17.3 Process Description

4.17.3.1 Each Center with operations potentially exposing workers or the public to non-ionizing radiation from RF and microwave generating equipment shall develop written procedures to identify, document, and control those radiation exposures in accordance with Institute of Electrical and Electronics Engineers (IEEE) Standard C95.7.

4.17.3.2 Techniques and instrumentation for the measurement and computation of potentially hazardous RF radiation both in the near field and the far field of the RF or microwave source, including contact voltage and contact and induced currents, shall be in accordance with IEEE Standard C95.3.

4.17.3.3 All personnel likely to exceed 20 percent of the maximum permissible exposure limit for controlled environments shall be appropriately trained in safe work practices for controlling or mitigating personal exposures.

4.17.3.4 RF and microwave radiation source approvals shall be based on documented RF exposure assessments which include direct measurements when practicable.

4.17.3.5 Operations and activities shall include reasonable controls directed toward reducing exposure. Such controls include engineering and administrative controls as well as the use of personal protective equipment, placement of appropriate RF safety signage, designation of restricted access areas, the use of personal RF monitors, and RF safety awareness training.

4.17.3.6 The beam height of RF and microwave transmitters shall be maintained at a level that does not intercept occupied facilities or structures, or personnel within the identified hazard distance.

4.17.3.7 Limits for maximum permissible exposure and induced and contact RF currents shall be derived in accordance with IEEE Standard C95.1.

4.17.3.8 Limits for lower frequency electromagnetic fields and static magnetic fields shall be in accordance with American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices.

Chapter 5. Employee Assistance Program (EAP)

5.1 General

5.1.1 Policy

5.1.1.1 The NASA EAP shall ensure that 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 and family life that may affect employee health and well-being, the safety of the employee and co-workers, or job performance, attendance, and productivity. 5 U.S.C. 7901, Health Service Programs, authorizes expansion of Agency EAPs to address other employee issues such as family, financial, and marital problems. NASA EAP services shall be private and confidential, free, and strictly voluntary, unless a mandatory supervisor referral. The program is available to all NASA Civil Service employees, immediate family members, and contractors at some Centers according to contract specifications.

5.1.2 EAP Contractor Statements of Work shall incorporate the requirements listed in this chapter, as well as other applicable NASA contract requirements.

5.2 EAP Confidentiality

5.2.1 The Privacy Act covers all EAP records. Employees with alcohol and drug issues are further protected by 42 CFR Part 2, "Confidentiality of Alcohol and Drug Abuse Patient Records." Under the Health Insurance Portability and Accountability Act of 1996 (HIPAA), employees have the right to request restrictions on certain uses and disclosures of EAP information. Depending on the location of EAP services, additional protection may be provided by state laws, state regulations, and/or professional association guidelines.

5.2.2 Center managers and supervisors shall inform employees about the availability and confidential nature of EAP services. During orientation and training activities, human resources representatives or EAP Officers or Clinicians shall also relay information to employees about the confidentiality policies and procedures associated with the EAP.

5.2.3 At the initial visit to the EAP, Clinicians shall inform employees about the procedures and laws affecting the EAP system of records, and employees shall be provided with a written Statement of Understanding concerning the confidential nature of EAP records. The Statement of Understanding shall contain elements reflected in 42 CFR Part 2. Instances where discreet employee information discussed in counseling may be disclosed to a third party (e.g., danger to self or others, suspected child abuse or neglect) shall also be provided in the Statement of Understanding.

5.3 EAP Record Access

5.3.1 EAP Clinicians shall not release any information without a signed consent from the employee, regardless of the issues discussed during counseling, except when required by law.

5.3.2 The NASA EAP Administrator, EAP Clinicians, and Center EAP Officers (frequently the occupational health Contracting Officers Representative (COR) shall serve as resources for

employees and their representatives (e.g., legal or union) for details on how to legally access EAP records.

5.3.3 Employees shall have the right to access their own EAP records. The employee shall submit a formal written request to the NASA EAP Manager with information that includes the Center at which the services were provided and the estimated dates of service. The exception to this policy is, when in the clinical judgment of the EAP Clinician, it may cause additional harm to the client.

5.3.4 Regular and routine access to EAP records is limited to EAP Clinicians working directly with EAP clients.

5.3.5 The NASA EAP Manager and NASA EAP Officers shall have access to "redacted" Center EAP client records for the purposes of EAP oversight, evaluation, and quality assurance. Redacted records shall not contain any employee-identifying information and shall be appropriately sanitized by the Center EAP Clinician.

5.3.6 Records disclosure with consent (except where disclosure without consent is allowed) requires that an employee's written consent be obtained before any release of EAP information can be made. This applies to all releases, including those to supervisors, treatment facilities, and family members, without regard to the type of issue the individual is experiencing. An employee's written consent is required to discuss any confidential information with human resources, union representatives, and other similar offices or programs. All consent forms shall meet the requirements of 42 CFR Part 2.

5.3.7 Records disclosure without the employee's written consent is only permitted in a few specific instances. Any need for EAP records disclosure without consent shall be treated with the strictest confidence and comply with applicable Federal and individual state laws. Nothing in this regulation restricts or prevents an EAP practitioner from complying with the duty to report that is mandated by Federal or state law. Any request or subpoena for records should be forwarded to the Office of the Chief General Counsel at the applicable Center or to the Office of the General Counsel at Headquarters. The Chief Health and Medical Officer (CHMO) shall be notified when a determination for disclosure of an EAP record without consent has been made.

5.3.8 Records disclosure may be made to individuals, such as law enforcement authorities and those persons being threatened, but the disclosure shall not identify the EAP client as an alcohol or drug abuser.

5.4 Release of Case Information and Secondary Disclosure

5.4.1 In cases where employees are referred to the EAP by supervisors because of work performance and/or conduct issues (except as provided in 5.3 above), no information shall be released to supervisors without the employee's written consent except whether or not employees made or kept appointments during official duty hours or any sick leave (for Drug-Free Workplace cases only).

5.4.2 Employees shall not be required to release information to supervisors. If employees choose to disclose their EAP file information, a consent form shall be signed by the employee to allow the release of information. The process is as follows:

a. If employees choose not to sign consent forms, the EAP shall not disclose any information to employee supervisors;

b. When employee consent is given to disclose information to supervisors, the EAP Clinician shall limit the discussion to attendance at the EAP, cooperation with the program, treatment plans that may interfere with the workplace, and work performance or conduct issues. The information provided by EAP Clinicians shall give supervisors a general idea of the kind of progress employees

are making; and

c. Supervisors shall be encouraged to notify the Center EAP Clinician of any changes in an employee's work performance or conduct and any corrective actions taken, since these actions may have an impact on an employee's treatment.

5.4.3 Disclosed information shall include a written statement prohibiting further secondary/additional disclosure unless the employee has expressly provided written consent and allows for further disclosures.

5.4.4 Secondary/additional disclosure statements shall be attached to all information released in writing or sent separately if the information was released orally.

5.4.5 A copy of the signed release and a description of the material released shall be placed in the employee's EAP record.

5.5. EAP Roles

5.5.1 The Occupational Health Director oversees the Agency's EAP and directs the EAP Administrator.

5.5.2 NASA Center Management shall meet with EAP Clinicians and/or EAP Officers at least twice per year to discuss the mental health of the Center's workforce.

5.5.3 The NASA EAP Administrator is an Agency position and coordinates with, provides assistance to, and communicates with Center EAP Officers. This position reports to the CHMO through the NASA Occupational Health (OH) Director.

5.5.4 EAP Clinicians are licensed mental health practitioners who counsel and communicate with employees to assist them with issues that may impact their performance and productivity at work. Clinicians implement NASA's EAP policies and programs, including programs for counseling and assisting employees with alcohol and drug abuse problems. Clinicians educate and provide guidance to Center supervisors and managers to assist them in dealing with employee work-related issues. EAP Clinicians may be Civil Service personnel or contractors.

5.5.5 NASA Center EAP Officers conduct administrative responsibilities. In some cases due to certain Center staffing scenarios, the EAP Officer is the Center's COTR or the EAP Clinician.

5.6 Responsibilities

5.6.1 NASA Center Management shall, at a minimum, be responsible for:

a. Providing resources and EAP professional staff sufficient to ensure an effective EAP for the number of individuals able to access the service;

b. Encouraging employees to use the EAP by making services convenient and available to employees;

c. Ensuring that a Critical Incident Stress Management (CISM) Program is in place; and

d. Ensuring that employees dealing with critical incidents have access to EAP support.

5.6.2 EAP Officers, including those who are also EAP Clinicians shall, at a minimum, be responsible for:

a. Administrative support, including coordinating with management regarding EAP outreach and initiatives;

b. Attending Agency meetings regarding Center-wide EAP issues;

c. Attending external training programs to enhance knowledge about current EAP issues;

d. Serving as a liaison between the Center and the NASA EAP Administrator regarding utilization reports and data;

e. Coordinating with appropriate Center program representatives and management to establish a Critical Incident Stress Debriefing (CISD) process that includes the designation of responsibilities for all team members, including management officials, emergency operations responders, medical first responders, human resources personnel, and supervisors; and

f. Providing pre-incident planning including CISD team member training, establishing links with community partners, and identifying at-risk populations within the Center.

5.6.3 The Agency EAP Administrator shall, at a minimum, be responsible for:

a. Implementing Agency EAP plans;

b. Providing assistance to EAP professionals regarding Center-wide external training programs;

c. Implementing specific Center initiatives such as smoking cessation, workplace violence prevention, and stress reduction;

d. Conducting periodic meetings with all Center EAP staff to discuss current issues, trends, staff changes, and administrative matters related to EAPs;

e. Providing the status of any issues related to the Agency's EAP and the results of Center by Center utilization reports to the Agency Occupational Health Director;

f. Supporting Critical Incident Stress Management coordination to ensure each Center's participation;

g. Advocating for individual Center contract adjustments, as appropriate;

h. Assisting with Center EAP training initiatives; and

i. Periodically assessing Center programs and policies that deal with minimizing the impact of harmful stress on the workforce.

5.6.4 EAP Clinician responsibilities shall include, at a minimum, the following:

a. Serving as the initial Point of Contact (POC) for EAP assistance;

b. Participating in meetings regularly scheduled by the EAP Administrator;

c. Being familiar with all EAP related laws and regulations, including NPR 3792.1B Plan for a Drug-Free Workplace and drug treatment/rehabilitative insurance coverage that are available to employees through the Federal Employee Health Benefits Program;

d. Being qualified and trained in counseling employees in the occupational setting and being familiar with identifying evidence of illegal drug use;

e. Being responsible for providing assessments, short-term counseling, referral, and educational and outreach activities to employees, including supervisors and managers;

f. For EAP Clinicians located offsite, being readily accessible to NASA employees and being responsible for regularly communicating and coordinating with an onsite Center representative, such as the COTR or EAP Officer, to ensure the continuity and quality of the EAP;

g. Developing or participating in work/life programs, including programs such as Critical Incident Response, Prevention/Threat Assessment, Americans with Disabilities Act, and the Drug-Free Workplace Program;

h. Ensuring that Center management and employees are notified about EAP programs available and offered training on early intervention and awareness;

i. Offering training and consultation to employees and supervisors;

j. Establishing employee feedback and quality control measures to document the degree of effectiveness of EAPs while assuring confidentiality;

k. Monitoring cases to ensure that continuity of care is provided or identifying reasons the client did not complete care;

l. Collecting metrics consistent with confidentiality standards that include numbers and types of cases, mandatory and non-mandatory referrals, and general demographic data;

m. Soliciting confidential client feedback and initiating quality control measures to document the degree of effectiveness of programs;

n. Providing quarterly utilization reports to the EAP Administrator, either directly or through their Center's COTR or EAP Officer; and

o. Ensuring that procedures are in place that ensure professional mental health assistance is available to Center employees during regular business hours, whenever the EAP Clinician is unavailable due to vacation, illness, offsite training, emergency, or other event wherein there is no office phone or in-person coverage. Provisions for this alternative coverage shall be outlined in the contract between NASA and the Contractor in the Statement of Work.

5.7 Program Elements

5.7.1 There are several types of EAP referrals, all of which are ultimately voluntary:

a. Self-Referral: self-seeking EAP assistance by an employee who thinks that he/she may have an issue that should be discussed with a mental health professional;

b. Management Referral: referral to the EAP by a supervisor, usually as a result of a performance or conduct deficiency or an employee who is identified as using/abusing drugs in accordance with Executive Order 12564;

c. Self Identification: self-seeking EAP assistance by an employee who admits to drug abuse to his/her supervisor or to others and seeks rehabilitative assistance in accordance with Executive Order 12564 prior to being identified through other means;

d. Mandatory Referral: a referral by an employee's supervisor due to an employee's positive drug test, performance issues, or other events that are deemed contrary to NASA policy and procedures. Although the actual referral is "mandatory," there is no requirement to compel an employee to partake in EAP services/assistance, since EAP participation shall always be voluntary. However, an employee's failure to cooperate with a mandatory referral to EAP for assistance may have adverse consequences for the employee; or

e. Other Referral: employee referral to the EAP by a union official, medical review officer, health professional, or through any means other than a self-referral or supervisory referral.

5.7.2 NASA employees are afforded an opportunity to meet with an EAP professional (not all EAP offices are onsite) during normal business hours. Between 5:00 p.m. and 8:00 a.m. on weekdays, weekends, and Federal holidays, employees may contact an on-call EAP professional, using a toll-free number, who provides short-term assistance until the Center's EAP professional is available.

5.7.3 EAP services shall include four types of core services:

a. Individual services shall include assessment, treatment planning, referral, short-term counseling, followup, and coordination with other NASA offices such as human resources regarding case planning and outcomes;

b. Managerial/supervisory services shall include assistance in employee EAP referral, employee support guidance, back-to-work meeting assistance, employee conduct and performance guidance, and supervisor training and education;

c. Organizational assistance shall include violence prevention, crisis management, critical incident assistance, support groups, employee orientations, education and outreach, and special auxiliary services (e.g., drug-free workplace, smoking cessation, job transitions); and

d. Administrative.

5.7.4 EAP professionals shall work cooperatively and establish partnerships with other offices such as Human Resources, Employee Relations, Equal Opportunity, Safety, and Occupational Medicine in work-related issues that potentially affect employee performance.

5.7.5 Critical Incident Stress Management (CISM) Program

5.7.5.1 A CISM Program shall be developed and implemented at each NASA Center as part of other employee EAP assessments and short-term counseling services offered within an environment of confidentiality. A CISM Program addresses the immediate and subsequent impact of catastrophic events on individuals or groups. The goal of a CISM Program intervention is to minimize the occurrence of post-trauma resulting from any critical incident and to augment recovery activities for populations having normal reactions to abnormal events.

5.7.5.2 A Center CISM Program shall be written and reviewed and updated annually.

5.7.5.3 A Center's CISM Program shall be made a part of the Center Emergency Response Plan. Examples of critical incidents that could impede an employee's ability to function include natural disasters (e.g., tornadoes, hurricanes, floods, fires and earthquakes), manmade disasters, major mission failure, terrorism, homicide, sudden death, suicide, victim or witness to violence, kidnapping, or hostage situations.

5.7.5.4 A Center's CISM Program shall include the following information and components:

a. Procedures that include the following:

(1) Education and coordination methods to be used among Center Management, EAP Clinicians, Emergency Preparedness and Response personnel, Medical First Responders, Occupational Medicine personnel, Human Resources, and Supervisors to ensure methods are in place to cover all aspects of a critical incident response management.

(2) Establishing, training, and maintaining a Critical Incident Stress Debriefing (CISD) team and designating a CISD Team Lead.

(3) Providing direction and coordination to the CISD team.

(4) Pre-crisis education and pre-deployment briefing sessions.

(5) Identifying and coordinating with local community health providers (e.g., safety, security, mental health professionals) to establish a resource network for CISD team members.

(6) Providing information to affected personnel regarding Center efforts to identify the scope of an incident and actions being taken to support the workforce.

(7) Notification methods and timelines used for community partners during or after an incident had occurred.

(8) Assessment, triage, treatment, referral, and followup of affected employees for up to one year, or longer if deemed necessary.

(9) Conducting meetings and post-incident intervention planning.

b. A description of the duties of the EAP Clinician (in certain Center staffing scenarios, an EAP Clinician may also serve as the Center's EAP Officer) that shall include the following:

(1) Developing CISM procedures.

(2) Establishing, providing training for, and maintaining a CISD team.

(3) Coordinating with Center Officials to establish the process for creating CISD teams.

Team members shall generally be drawn from the Center's personnel, health, safety, and security communities.

(4) Establishing links with community partners.

(5) Outlining the responsibilities for all participants, including Management, Emergency Operations Responders, Medical First Responders, Human Resources personnel, and Center Supervisors.

(6) Identifying at-risk populations within the Center.

(7) Meeting with Center Emergency Preparedness personnel, Medical First Responders, and Management to assess impact and identify affected employees on notification of a critical incident.

(8) Compiling a list of the individuals to participate in CISD Team Member briefings.

(9) Notifying the CISD team and any community partners to establish a meeting place for the Team and participants.

(10) Leading the CISD team in providing defusing and debriefing sessions, as well as providing one-on-one interventions, referral, and follow-up services.

(11) Making requests to the Agency EAP Administrator for additional CISD training or additional temporary EAP Clinician support to respond to a critical event.

c. A description of Center Management duties that shall include the following:

(1) Ensuring the Center workforce dealing with critical incidents has access to EAP support.

(2) Ensuring that the Center maintains a written and current CISM policy.

d. A description of CISD team member duties that shall include the following:

(1) Providing CISD services under the direction of the Center EAP Officer or EAP Clinician.

(2) Assisting in identifying individuals in need of additional EAP services.

(3) Being familiar with CISM components, including procedures and protocol.

(4) Participating in initial and periodic planning meetings.

(5) Providing support for a CISD exercise following a critical incident, including follow-up monitoring of impacted employees.

(6) Coordinating with and executing guidance from the EAP Clinician or appointed CISD Team Lead.

(7) Participating in debriefings for CISD team members.

e. A description of Center Emergency Preparedness and Medical First Responder Personnel responsibilities that shall include the following:

(1) Familiarization with Center CISD services.

(2) Notifying the Center EAP Officer or Clinician of critical incidents and coordinating the arrangement of meeting facilities for CISD exercises.

(3) Assisting the EAP Officer or Clinician in coordinating CISM efforts, along with a designated Human Resources Officer.

(4) Identifying impacted employees.

(5) Participating in post-incident demobilization, defusing, and debriefing exercises as requested by the CISD Team lead.

f. A description of Center Human Resource Officer responsibilities that shall include the following:

(1) Notifying the Center EAP Officer or EAP Clinician of any known critical incidents.

(2) Assisting in identifying individuals or groups impacted by a critical incident.

(3) Informing supervisors and employees of the availability of CISM services.

g. A description of Center Supervisor responsibilities that shall include the following:

(1) Notifying the Center EAP Officer or EAP Clinician, along with other designated contacts (e.g. safety, security, medical, personnel) of any critical incidents.

(2) Assisting in the identification of individuals or groups impacted by a critical incident and providing incident information facilitating the debriefing process.

(3) Encouraging and granting time for employees to participate in Center-sanctioned CISM service.

(4) Notifying the Center EAP Officer or EAP Clinician of any difficulties an employee may be experiencing (e.g., changes in performance or behavior) following a critical incident.

5.7.6 Workplace Violence

5.7.6.1 Pursuant to NASA's Office of Human Capital NPD 1600.3, Policy on Prevention of and Response to Workplace Violence, NASA Centers shall implement and maintain a Workplace Violence Prevention Program, which provides Center Directors with the discretion of designating a Center EAP as a permanent member of the Center's Threat Assessment Team. To assist in this

capacity, EAP Clinicians shall:

a. Consult the most recent version of the NASA Desk Guide for the Prevention of and Response to Workplace Violence Center for additional information on the Agency's workplace violence prevention procedures and resources;

b. Assist other Center offices, such as Human Resources, Security, Safety, and Public Affairs in required annual workplace violence prevention training and other awareness and prevention activities for employees;

c. Assist with the review and assessment of incidents involving psychiatric, alcohol, or drug-related behavior;

d. Ensure that stress, grief, and security concerns are addressed with employees during and after workplace violence events;

e. Consult with the Center Threat Assessment Team when a potential for violence exists or an actual incident is reported;

f. Consult with Center Incident Response teams when a potential for violence exists or an actual incident is reported;

g. Participate in CISD teams in the event of a violent situation;

h. Consult with Center Supervisors to identify specific problem areas, develop action plans to resolve problems in the early stages, and encourage employees and supervisors to contact the EAP for individual counseling; and

i. Help in the prevention of workplace violence through: early involvement in organizational changes; training employees in dealing with angry co-workers and customers, conflict resolution, and communication skills; training supervisors to deal with problems as soon as they surface without diagnosing the employee's problem; making recommendations to address workplace stress and violence issues; identifying ways to deal with uncomfortable or threatening situations; discussing with employees problems that can adversely affect job performance and conduct, and help employees with other problems (e.g., marital or financial issues) that may underlie potentially violent situations.

5.7.7 Domestic Violence Awareness

5.7.7.1 NASA Centers shall conduct domestic violence awareness training programs for their workforce. Domestic violence and emotional abuse are behaviors used by one person in a relationship to control the other. Individuals may be married, not married, living together, separated, or dating. Violence may be criminal and includes physical assault (hitting, pushing, shoving), sexual abuse (unwanted or forced sexual activity), and stalking. Emotional, psychological, and financial abuses are not criminal behaviors but are forms of abuse and can lead to criminal violence. Occurrence and severity of domestic violence may increase with stress, financial difficulties, and job insecurity.

5.7.7.2 Domestic Violence Awareness Training shall be provided by the Center EAP and/or Human Resources and include:

a. A review of the Center's domestic violence policy and procedures;

b. Resources available for victim assistance;

c. Resources for emotional support and self-esteem or empowerment;

d. A discussion of the dynamics of abuse and barriers to ending domestic abuse;

e. Resource for financial, legal, and advocacy; and

f. A discussion of security and confidentiality issues.

5.7.7.3 All Center Medical staff and healthcare workers shall be knowledgeable about the serious nature of and physical and behavioral signs of domestic violence and shall request training from the Center EAP Clinician whenever necessary.

5.7.7.4 The Center EAP shall provide training to supervisors about the nature and dynamics of domestic violence and how to identify behavior exhibited by employees through unusual performance or emotional instability, or through physical evidence of trauma.

5.7.7.5 All reports of abuse shall be taken seriously and the victim referred for assistance.

5.7.7.6 Center EAP Clinicians shall provide confidential consultation to management regarding employee problems related to domestic violence.

5.7.7.7 Victim assistance provided by the Center to ensure their safety shall include:

a. Center Human Resources, Legal, and Security personnel assistance when an abuser has access to the Center at which the victim is employed;

b. Availability of information at various Center offices regarding the procedures and resources to be used (e.g., telephone numbers) for assistance. A list of community resources shall be available onsite, as well as in confidentially accessible locations such as bathroom and locker facilities; and

c. Center EAP assistance to confidentially assess the risk to victims, providing contacts and telephone numbers to victims to assist them and encouraging victims to memorize emergency numbers, arranging for onsite contacts if community resources are not easily available, and working with victims to develop a "safety plan" that includes:

(1) Preparation to leave the abusive situation, including financial planning, rehearsing, arrangements for any children involved in the victim's home, legal, or enforcement assistance notification and requirements, important documents to take, and a contingency plan if the initial plan cannot be implemented.

(2) Protection during violent incidents.

(3) Safety in the home, work, and public places.

5.7.7.8 Short-term counseling shall be available to victims of domestic violence and may involve from one to several sessions, over a discrete period of time, as determined by the EAP Clinician. Counseling does not include a clinical evaluation or diagnosis. Counseling shall include at least the following:

a. Counseling of employees referred to the EAP by self-referral or by supervisory referral;

b. Informing clients of confidentiality rights and of the duration and type of services provided by the EAP;

c. Providing problem assessment, using constructive confrontation and short-term intervention and assisting with providing information for referrals directed to community-based resources; and

d. Referring clients for other assistance and treatment, and advising on the potential cost of outside treatment which must be borne by the client.

5.7.7.9 Employees shall be screened for evidence or history of domestic abuse, with appropriate actions taken if domestic violence is suspected.

5.7.7.10 Centers shall develop and maintain a domestic violence policy with a multidisciplinary approach to identify, address, and ensure Center safety for domestic abuse victims. The policy shall include the following:

a. Maintenance of victim confidentiality;

b. Security of the victim and co-workers, especially if the abuser works at or has access to the Center;

c. Provisions for victim access to Center resources during work hours; and

d. Description of the functions of the Center EAP, supervisory, medical, and human resources personnel in cases of domestic violence against a Center employee.

5.7.8 EAP Quality Assurance

5.7.8.1 Onsite reviews of NASA Center EAPs shall be conducted in accordance with Chapter 7 of this NPR. Reviews shall include, but not be limited to, an assessment of:

a. EAP staffing levels;

b. Annual internal or third party EAP evaluations during off-years;

c. Whether the EAP is meeting Agency objectives and goals;

d. EAP utilization rates and trends;

e. EAP availability and accessibility and conformity with NASA's culture;

f. Workforce satisfaction with program services;

g. Overall program effectiveness;

h. Maintenance of EAP Web site (where applicable);

i. Types and frequency of outreach and education programs;

j. Frequency of EAP and Center Management meetings to discuss status of workforce mental health;

k. Status of partnerships with other Center offices such as Human Resources, Equal Employment Opportunity, Medical, Fitness, Work/Life, and Workers' Compensation;

l. Case records maintenance and quality assurance;

m. Maintenance of EAP policy and procedure documents; and

n. Quarterly and annual report submittal timeliness and content.

5.7.9 Records Maintenance, Retention, Coding, Security, and Destruction

5.7.9.1 NASA EAP records are considered personal case files consisting of electronic records, handwritten notes, letters to physicians or counselors, calendar of treatment(s), authorization releases, after care information, and telephone messages. EAP records, whether written, verbal, or electronic, are covered by this NPR. This NPR covers records generated and/or maintained by EAP Clinicians who are Civil Service personnel or contract personnel.

5.7.9.2 All EAP records (electronic and hardcopy) are the property of NASA, including records

created and maintained by contractors. Contractors are only the custodians of EAP records while under contract to NASA. At contract termination, contractors shall return original records to the successor EAP Clinician or the NASA EAP Administrator consistent with the confidentiality requirements and as specified in individual Center contracts.

5.7.9.3 NASA EAP records shall be maintained in a discrete secure location. EAP records are not considered to be medical records and shall not be maintained with medical records. EAP file contents shall never be part of or stored with personnel folders, employee medical files, or any other system of records in NASA. Case files shall be handled confidentially in accordance with Section 408 of Public Law 92-155. All written case records shall be kept in separate, locked filing cabinets. Cabinets shall be locked when not in use.

5.7.9.4 Where an external EAP provider maintains EAP records for a NASA Center, the records shall be maintained separate from other customers' client records and be accessible for NASA Office of the Chief Health and Medical Officer quality assurance reviews.

5.7.9.5 EAP Clinicians shall maintain a record of cases and activities on a Government fiscal year basis.

5.7.9.6 Records shall be retained until five years after employees have ceased contact with the EAP, whether or not employees have terminated employment with NASA. At a minimum, management referral cases shall be destroyed five years after the last date in file, or upon termination of employee. At a minimum, voluntary referral cases shall be destroyed two years after the last date in the file, or upon termination of employee. Records shall be retained longer if required by state laws where the records are stored, or until any litigation involving the employee is resolved. EAP records retention is governed by NPR 1441.1, NASA Records Retention Schedules.

5.7.9.7 To ensure confidentiality, all records shall be maintained and retrieved by unique case numbering systems rather than by names. Case-coded files shall include records that have been closed but not yet destroyed.

5.7.9.8 Each employee participating in the EAP shall be assigned a unique case number.

5.7.9.9 All hard copy case materials shall be placed in a folder and labeled with this unique case number. Computer files shall also be labeled with this unique case number.

5.7.9.10 The list of unique case numbers that correspond to the employees' names shall be maintained in a locked or secure file, separate from the case folders. It shall be secured when not in use and shall be maintained by EAP Clinicians or authorized EAP record custodians.

5.7.9.11 All identifying information recorded in case records shall be kept to a minimum.

5.7.9.12 All contacts shall be recorded with the most recent information filed on top. Entries shall only contain the information necessary for handling cases.

5.7.9.13 All persons having access to the files shall have previous training in the proper handling of records covered by this policy. Refresher training shall be provided in the event of a policy change.

5.7.9.14 The EAP Clinician or approved EAP record custodian shall be responsible for ensuring that file cabinets are secure before leaving each day.

5.7.9.15 Confidentiality safeguards shall be implemented with the storage of electronic EAP records in accordance with NPR 2810.1A, Security of Information Technology requirements.

5.7.9.16 Paper records shall be destroyed at the individual NASA EAP sites and in accordance with a method that has been approved by NASA.

5.7.9.17 Names of the employees whose EAP records were destroyed shall be added to a record of former EAP clients. This list shall be kept with the unique case number record and the same confidentiality procedures apply. No other information about clients shall be maintained once their records have been destroyed.

5.7.10 EAP Report Requirements

5.7.10.1 EAP Clinicians shall employ EAP Caseware 20/20 software to record case data and generate reports. EAP Clinicians who do not use Caseware 20/20 shall provide reports comparable to those using Caseware 20/20 software so that data analyses performed are accurate and consistent Agency wide.

5.7.10.2 Onsite and offsite EAP Clinicians shall electronically provide an annual report of the previous fiscal year cases to their Center Management and to the NASA EAP Administrator by December 1 of each year. Data provided in the report shall include:

a. Number of cases;

b. Breakout of cases into NASA Civil Servants, Contractors, Dependents;

c. Age and gender of clients;

d. Presenting problems;

e. Assessed problems;

f. Average number of sessions;

g. Case disposition at closure;

h. Number of management referrals;

i. Number of high risk cases such as those involving potential violence, drug or alcohol concerns, and suicidal/homicidal ideation;

j. Number of management consultations;

k. CISD and other CISM activity;

l. Training offered;

m. Support/psycho-educational groups;

n. Work-Life cases such as Child Care, Elder Care, Financial Services, Legal Services, Concierge (where provided);

o. Online and Internet resources;

p. Quality assurance activity;

q. Narrative on Center trends affecting job performance;

r. How clients heard about the Center's EAP; and

s. Recommendations.

5.7.10.3 Onsite and offsite EAP Clinicians shall also provide specialized electronically generated reports at the request of the CHMO for special projects on an as needed basis.

Chapter 6. Federal Workers' Compensation (FWC) Program

6.1 General

6.1.1 Policy

6.1.1.1 Each NASA Center shall develop a written FWC Program. The program shall be reviewed and updated at least annually to account for changes in personnel, changes in roles and responsibilities, changes in Agency policies and procedures, and changes in Federal regulations. All regulatory guidance documents used to develop a Workers' Compensation Program and claims forms shall be the most recent versions. The most up-to-date versions of Workers' Compensation claim forms can be accessed at: http://www.dol.gov/esa/owcp/dfec/regs/compliance/forms.htm.

6.1.2 Safety, Health and Return to Employment (SHARE)

6.1.2.1 NASA shall process FWC claims and reports in accordance with the Office of Workers' Compensation Programs (OWCP) information and timeliness requirements. NASA shall also aim to reduce the number of FWC claims and increase the timeliness of reporting injuries and illnesses to the Department of Labor (DOL) in accordance with Presidential initiatives implemented during the past decade. The 2004 SHARE Presidential initiative mandates that agencies attempt to reduce the number and severity of claims, improve the timeliness of claim submittals, and make strong efforts to promptly return employees to their jobs. In 2006, the President extended the 2004 SHARE Initiative through Fiscal Year 2009.

6.1.3 Eligibility

6.1.3.1 All U.S. civilian employees except those paid from non-appropriated funds are covered by Federal Employee Compensation Act (FECA). Special circumstances may apply to contract employees, volunteers, and loaned employees. Coverage is extended to Federal employees regardless of the length of time on the job or the type of position held. Probationary, temporary, and term employees are covered on the same basis as permanent employees. Part-time, seasonal, and intermittent employees are also covered.

6.1.3.2 To be eligible under FECA, an injury or illness must occur on NASA's premises during working hours while an employee is performing assigned duties or engaging in an activity that is reasonably associated with their employment. Coverage extends to an employee's use of facilities for comfort, health, and convenience, as well as eating meals and snacks provided on the premises. "Premises" includes areas immediately outside an employee's workplace, such as steps or sidewalks if they are Federally-owned or maintained. Coverage extends to employees who are on the premises for a reasonable time (e.g., 30 minutes) before or after working hours. Employees injured while engaging in the internal business of a labor organization such as soliciting new members or collecting dues are not covered. NASA-owned, controlled, and managed parking facilities are considered "on premises" if an employee is injured there.

6.1.3.3 Workers performing assigned duties offsite are also covered. Examples of these instances include running errands, conducting special missions, and teleworking. Injuries occurring during an employee's lunch hour off the premises are not usually covered unless the employee is in travel status or performing their regular duties off premises. An employee in travel status is covered by FECA 24 hours per day for all activities incidental to the work assignment, including obtaining

meals, using the hotel room, and traveling between the hotel and worksite. Coverage does not include recreational or sightseeing trips. Also not included is coverage for unauthorized "off premises" activities, willful misconduct, and intoxication by alcohol or illegal drugs.

6.1.3.4 Employee injury claims involving traffic accidents shall include a diagram or map showing the location of the accident in relation to the places where official duty was last performed and next scheduled. Other potentially applicable circumstances where employees sustain injuries shall be determined on a case by case basis. Examples include employees engaged in recreational activities on NASA's premises, horseplay, assault, and emergencies.

6.1.4 Records Access and Privacy Act

6.1.4.1 Medical records shall be handled with care and with restricted access to those with a specific need to have it. Records are managed and disposed of under the provisions of NASA 10 Health Information Management Systems (HIMS) of Records.

6.1.5 Forms

6.1.5.1 Forms used for FWC claims include the following:

a. CA-1: Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation;

b. CA-2: Notice of Occupational Disease and Claim for Compensation;

c. CA-2a: Notice of Recurrence;

d. CA-6: Official Supervisor Report of Employee's Death;

e. CA-7: Claim for Compensation;

f. CA-16: Authorization for Examination and/or Treatment;

g. CA-17: Duty Status Report;

h. CA-20: Attending Physician's Report (attached to Form CA-7);

i. CA-7b: Leave Buy-Back Worksheet;

j. CA-35: Evidence to Support Medical Claim;

k. OWCP-915: Claim for Medical Reimbursement; and

l. HCFA-1500/OWCP 1500: Health Insurance Claim Form.

6.1.6 Case Management

6.1.6.1 NASA Centers shall include as part of their FWC Program a case management program for short- and long-term injuries and illnesses. Prompt processing of FWC claims through a case management system assures the most expeditious authorization of medical care for the injured or ill and facilitates the return to productive employment. Case management consists of monitoring an employee's medical treatment and tracking the employee's ability to return to work.

6.1.6.2 Case management shall include the formation of a working group at each Center that meets quarterly. In addition to the Center Workers' Compensation Officer (WCO), the working group shall have representatives from the Center's Medical Clinic, the Human Resources Office, and the Safety Office, as well as the appropriate employee representatives such as the case manager, supervisor, or union representatives. The entire working group or a specific working group representative may be

requested to meet and provide assistance to the Center WCO.

6.1.6.3 Case management shall also include other forms of communication, such as telephone or e-mail contact with appropriate staff.

6.1.6.4 Case management shall include periodic visits by the Center WCO or Case Manager to the DOL OWCP regional office to review case files in order to identify the possibility of closing long-term cases.

6.2 Responsibilities

6.2.1 NASA Chief Health and Medical Office (CHMO), Occupational Health (OH) establishes the responsibilities and procedures for the Agency's FWC, evaluates workers' compensation data trends, and monitors Agency-wide costs.

6.2.2 NASA Center Senior Management ensures that (1) Center-specific guidelines for managing FWC injuries and illnesses are implemented, (2) OWCP data is provided to the Agency Workers' Compensation Program Manager, (3) a civil service or designated contractor WCO and an alternate are designated for the Center, (4) the WCO has a permanent, separate, and solid (not portable/cubicle) walled private office where employee medical data can be discussed, (5) quarterly FWC cost data and the numbers and types of injuries and illnesses that have occurred at their Center have been reviewed by appropriate Center management personnel, and (6) SHARE data for their Center has been reviewed and distributed to the appropriate Center management personnel.

6.2.3 Agency Workers' Compensation Manager shall be a civil service employee who: (1) reports to the Agency OH Director in the Office of the Chief Health and Medical Officer (OCHMO), (2) serves as the NASA liaison with the DOL, including submittal of reports, (3) determines the Center's level of access to OWCP and other organizations for Workers' Compensation data, (4) provides quarterly reports of numbers and costs of occupational-related injuries and illnesses to the OH Director, (5) provides assistance to Center WCOs in controverting questionable claims, reviewing cases of permanent disability, communicating changes in OWCP requirements/procedures/guidelines, and assisting with other FWC issues, (6) notifies OWCP of errors in chargeback billing reported by Center WCOs, (7) monitors the Agency OWCP data trends and costs and provides that data to the Agency OH Director, (8) establishes the responsibilities and procedures for the Agency FWC Program, and (9) coordinates with the Headquarters WCO when processing paperwork for Office of Inspector General employees injured on-site.

6.2.4 Center Occupational Medical Clinic Personnel: (1) work and coordinate with the Center WCO on FWC cases, (2) provide medical evaluations of employees for new limited-duty and current positions, (3) evaluate private physician medical diagnoses and recommend a course of action to Center management regarding an occupationally injured employee's return to work options, and (4) serve as the medical points of contact in FWC case management.

6.2.5 The Center Human Resources Office (HRO) works with Center Occupational Medical Clinic personnel, WCOs, and employee supervisors to recommend current and future work activities for injured/ill employees who are eligible to return to work on a modified duty status. The HRO also provides a representative to participate in the Center FWC working group.

6.2.6 Center Workers' Compensation Officer (WCO): The WCO shall be a Civil Service employee; a contractor employee may fulfill this position with management concurrence. An alternate shall also be designated and may be either a Civil Service or contractor employee. In some cases, the WCO is also the FWC Case Manager. The Center WCO (and alternate when required) shall:

a. Take initial and refresher training provided by the Center's associated regional OWCP office or equivalent;

b. Lead and participate in the Center FWC Working Group, as necessary;

c. Report Continuation of Pay (COP) and injury data to the Agency Workers' Compensation Manager and Center management quarterly;

d. Maintain records of employee claims at their Center;

e. Track COP costs and compensation costs for all active Center cases;

f. Provide quarterly reports to the Center Director and other Center Management in a format determined by the Center;

g. Maintain a history and current status of employee injury/illness and work capability and costs for all claimants except for survivor benefits;

h. Document the return to work progress for limited duty return to work where an employee cannot return to full duty;

i. Periodically review cases at the Center's associated OWCP district office (the Center Medical Director may be included if the WCO or alternate is not the Case Manager. Special efforts shall be taken to document long-term cases); and

j. Inform Center supervisors and employees about their responsibilities and rights concerning on-the-job injuries and illnesses. This may be conducted through training classes, memoranda, employee handbooks, newsletters, and similar methods.

6.2.7 Case Managers support employees throughout the FWC treatment and return-to-work process. Duties shall include monitoring appropriateness and effectiveness of medical care being provided, assessing employee compliance with treatment recommendations, and facilitating employees' return to work within medical limitations.

6.2.8 Employee Supervisors shall complete required FWC forms and assist in identifying light-duty and modified job descriptions for employees who are eligible for return to work on a limited basis.

6.2.9 Injured Employees: (1) provide information on work-related injuries and illnesses to their supervisors, (2) provide medical reports and complete DOL OWCP forms (e.g., CA-1/CA-2) with Center WCOs for evaluation, (3) request written descriptions of light duty jobs available from their immediate supervisors and provide that information to the treating physician to find out when return to work is possible (COP/compensation may be terminated if employee refuses work that is within medical restrictions provided by treating physician and without good cause or if employee does not respond within specified time limits to a job offer at the employee's NASA Center location).

6.3 Process Description

6.3.1 Each NASA Center (and component Facility, if applicable) shall have their own specific written procedures for employee reporting of work-related illnesses and injuries, as well as Center-specific written processing and reporting procedures used for FWC case management.

6.3.2 In general, the process for work-related illness and injury claims, processing, and reporting shall follow the course as described below. Because staffing resources and responsibilities differ at each Center, the process shall adhere to the procedures to the extent possible. Deadlines shall be adhered to in all cases.

6.3.3 An employee who sustains a work-related injury or illness shall report the incident to their immediate supervisor and/or the Center WCO. The employee's supervisor shall complete the front of Form CA-16 for the employee to take to a medical facility within four hours of the request whenever possible. An OWCP-1500 may also be provided to the employee at this time. If there is no time to complete Form CA-16, the completed form may be sent to the medical facility within 48 hours. In the case of serious injury/death during duty hours, the supervisor promptly notifies the Center WCO. An employee death requires the supervisor to complete a Form CA-6, Official Supervisor's Report of Employee's Death."

6.3.4 The employee shall seek treatment onsite at the NASA Center clinic or offsite using his/her private licensed physician. In emergency situations, the employee is transported offsite.

6.3.5 The employee shall provide the Form CA-16 (and the OWCP-1500, if available) to the treating physician. A Form CA-20 which is attached to Form CA-7 may also be provided to the treating physician in lieu of a Form CA-16.

6.3.6 Employees shall report work-related injuries and illnesses to the first line supervisor and the Center Health Unit immediately. After occurrence of injury or illness, employees shall be evaluated by a licensed physician at the Center Health Unit. After being seen by a licensed physician at the Health Unit, employees may be treated by a medical practitioner of their choice, including the Health Unit physician. In fitness for duty determinations, the employee may provide their physician's opinions to the Health Unit for inclusion in their medical record. Before returning to work to resume normal full-time duties after an occupational injury or illness, employees shall report to the Health Unit for evaluation/screening.

6.3.7 The OH clinic staff shall obtain a Federal employee's history, assess the injury or illness, and provide treatment if it is within the scope of the facility's capabilities. The Clinic shall review injury, illness status of claimants, provide immediate and follow-on medical care, and provide medical management of claims.

6.3.8 If the case is expected to be sent to OWCP, a medical report from the treating physician is required. The medical report from the attending physician shall include: dates of examination and treatment, history given by employee, physical findings, results of diagnostics tests, diagnosis, course of treatment, other conditions found but not due to the claimed injury, treatment given or recommendation for claimed injury treatment, medically-based physician's opinion as to the causal relationship between diagnosis and factors or conditions of employment, extent of disability affecting employee's ability to work due to injury, and the prognosis for recovery.

6.3.9 The employee shall provide medical documentation, including information on medical limitations (CA-16 or CA-20) and completed compensation forms to the Center WCO for review before a formal claim is made.

6.3.10 If the employee incurs medical expenses or loss of time from work beyond the date of injury, a Form CA-1 or Form CA-2 shall be completed by the employee and submitted to the employee's supervisor as soon as possible. Form CA-1 or Form CA-2 shall be completed no later than 30 days from the date of injury. The form may be completed by someone acting on the employee's behalf (e.g., family member, supervisor, co-worker); however the form must contain the original signature of the injured employee. If submitting a Form CA-2, a Form CA-35 "Evidence Required in Support of a Claim for Occupational Disease" form/checklist is also required.

6.3.11 The supervisor shall provide the Form CA-1 or Form CA-2 to the Center WCO within three (3) working days of receipt from the employee. The Form CA-1 serves as the employee's claim for COP. The Form CA-1 or Form CA-2 shall be sent to the appropriate DOL district office by the

Center WCO as soon as possible but no later than ten (10) working days after receipt of the form from the employee or the employee's supervisor.

6.3.12 If the injury is considered first-aid only and the employee obtains no medical care on the date of injury, and no time lost is charged to leave or COP, Form CA-1 is filed in the employee's medical file. First aid injuries include those injuries requiring two or more visits to a medical facility for exam/treatment during non-duty hours beyond the date of injury, as long as no leave/COP is charged and no medical expenses are incurred by the employee. Center WCOs shall record whether claims were first-aid only and the date (if applicable) when the first-aid injury became a nonfirst-aid reportable injury.

6.3.13 Center WCOs shall work with employees to assist in filing claims and work with the Center Medical Director and supervisor for potential cases of controversion. Controverting a claim may require consulting with the Center's Office of Chief Counsel. If the injury is found not to be work-related, the claim is controverted by the WCO. Only the OWCP has the authority to accept or deny a claim. If NASA pays or withholds a COP, OWCP has the authority to review the case. Medical evidence determines whether an accepted case will result in payment of disability benefits. The WCO shall terminate payment of COP if medical evidence of an injury or illness is not provided within ten (10) calendar days from the date the injury began.

6.3.14 The Center WCO shall use Form CA-17 to obtain interim medical reports about an employee's fitness for duty. The employee's supervisor completes NASA's portion of the form by describing the physical requirements of the employee's job and noting the availability of any light or limited duty positions or work. The Form CA-17 is then completed by the employee's physician who sends the original form to the NASA Center WCO and a copy to the appropriate OWCP district office. CA-17 forms may be sent to the employee's physician at reasonable intervals but not more than once per week to monitor the employee's medical status and ability to return to light or full duty.

6.3.15 NASA, in accordance with the DOL OWCP requirements, shall offer appropriate light or limited duty work for employees' safe and expeditious return to work. FECA provides that employees must actively seek suitable work as soon as possible. This includes returning employees from the long-term rolls (those who have been off work more than one year). Supervisors of injured employees shall make every effort possible to structure or modify an injured employee's work duties to meet medical limitations and to allow the employee to return to work. Position descriptions do not need to be modified unless the modification is long term. An injured employee must accept a reasonable offer of limited duty work that the employee can perform or provide explanation to OWCP for declining. If receiving COP and the employee refuses the limited duty work, COP is terminated upon refusal or within five (5) days of the job offer. If work is not available, OWCP provides nurse and vocational rehabilitation services to help employees return to work with NASA or another Federal or private sector employer. Employees are expected to cooperate with vocational rehabilitation efforts and FECA provides sanctions for those who do not cooperate, including the termination of compensation.

6.3.16 The Center Human Resources Office shall coordinate with Center Medical Clinic staff, the Center WCO, and employee supervisors to provide recommendations to determine an employee's eligibility to return to work on a limited basis. The Center WCO and the employee's supervisor shall identify suitable jobs and initiate efforts to re-employ the employee as soon as it is determined that this is possible.

6.3.17 An employee who sustains a disabling traumatic injury may request continuation of pay (COP) for the period of disability. If the employee cannot return to work due to the nature of the injury, and the injury continues beyond 45 calendar days, the employee must claim OWCP

compensation on Form CA-7 or use sick or annual leave or enter a leave without pay status.

6.3.18 Center WCOs shall maintain periodic contact with injured employees while they are receiving workers' compensation benefits.

6.3.19 Ongoing care and followup shall be provided to the injured employee until the employee's Maximum Medical Improvement has been reached.

6.3.20 The employee reports to the Center's Health Clinic to ensure that he/she is 100 percent fit for duty before resuming normal/unlimited duties.

6.3.21 The Center WCO shall notify the OWCP claims examiner/district office when an injured worker returns to work. A letter shall also be sent by the Center WCO to OWCP to document the case status in writing.

6.4 Reports and Recordkeeping

6.4.1 The FECA fiscal year is July 1 through June 30 for chargeback purposes. The first quarter is July 1 through September 31. The second quarter is October 1 through December 31. The third quarter is January 1 through March 31. The fourth quarter is April 1 through June 30.

6.4.2 Center WCOs shall provide quarterly claim reports to the Agency Federal Workers' Compensation Manager to show progress made toward reducing the number and costs of Workers Compensation injuries and the number of lost work hours for employees receiving benefits. Each quarterly report shall include the number of employees requiring work limitation and the number of employees returned to alternate work.

6.4.3 The Agency FWC Manager shall be notified by Center WCOs of any employee deaths, multiple injuries/illnesses from events likely to result in multiple claims, scheduled awards for injuries/illnesses in excess of $25,000, or acceptance of any hearing loss claims.

6.4.4 Quarterly reports shall be completed and submitted to the Agency Workers' Compensation Manager and also to the WCO's Center management no later than January 25, April 25, July 25, and October 25 each year. COP cases reported shall include the claimant name, hours, and cost of COP, payments made in the most recent quarter, and payments made in the previous quarter.

6.4.5 Center WCOs shall maintain records of employee injuries and dates of issue and submittal to OWCP of CA-1/CA-2/CA-16 forms. Records shall be safeguarded in accordance with all privacy statutes and requirements and retained according to NPR 1441.1 NASA Records Retention Schedules. Where the technology is available, public key infrastructure shall be used for electronic transmission of personal medical information.

Chapter 7. Occupational Health Review Process

7.1 Policy

7.1.1 The NASA Office of the Chief Health and Medical Officer (OCHMO) conducts Occupational Health (OH) reviews and defines OH "requirements" as mandatory elements for programs or functions. Requirements include NASA Policy Directives (NPDs), NASA Procedures and Requirements (NPRs) and external regulations and consensus standards applicable to NASA. This chapter establishes a method for performing and documenting the results of, and delineating the requirements for, Agency OH reviews conducted at NASA Centers/Facilities (hereinafter Centers), including NASA Headquarters (HQ) and NASA's Jet Propulsion Laboratory to the extent required in their contract.

7.1.2 The goal of the OCHMO is to ensure the protection and promotion of NASA workforce health, to improve workers' capabilities and abilities, and to ensure the maintenance of their safe and healthy working environment. Regular reviews of OH components are required to accomplish this goal, which includes verification of compliance with other Federal, state, local, and Center regulations. OH reviews help identify and mitigate risk, provide a consistent, high level of health care, and identify best practices and innovative solutions that provide greater operational effectiveness and efficiency. Achieving and maintaining sufficient resources commensurate with the Center's size, population, and mission are within the scope of OH reviews.

7.1.3 OH reviews provide a forum for NASA Center/Facility personnel and OCHMO to discuss OH-related issues for which OCHMO may be able to assist. The OCHMO OH Review Team members are advocates and provide technical help; guidance on best practices; support for Agency OH initiatives; facilitation of specialized training for emerging health threats and new requirements; and enhancement of the competency of OH employees.

7.1.4 Periodic OH program reviews shall include assessment of medical care provided at each Center's Occupational Medicine Clinic (including emergency care capability and coordination with other departments, medical quality assurance, health clinic environment of care, and childcare facility health aspects); preventive health and wellness activities; Employee Assistance Programs; Federal Workers' Compensation; fitness facilities; industrial hygiene; health physics; and food safety.

7.1.5 OCHMO Review Team Members shall be qualified to conduct review in their specific program area per NPD 1210.2, NASA Surveys, Audits, and Reviews Policy, paragraph 5 (2).

7.1.6 Each member of the OCHMO Review Team shall:

a. Maintain the standards and ethics expected of a NASA civil service or contractor employees;

b. Always act in the interest of the health and safety of workers;

c. Base judgments on scientific knowledge and technical competence, seeking specialized expert advice when necessary;

d. Refrain from any judgment, advice, or activities that may endanger the trust in their integrity or impartiality;

e. Maintain full professional independence;

f. Observe confidentiality in performing duties;

g. Treat coworkers and other individuals equitably and without any form of discrimination in accordance with NPR 2081.1, Nondiscrimination in Federally Assisted and Conducted Programs;

h. Establish and maintain clear channels of communication among the team members, OCHMO management, Center points of contact, Center management, and others;

i. Maintain high-quality review records, with the appropriate degree of confidentiality, for identifying OH findings at Centers; and

j. Provide objective evidence including, but not limited to, surveillance of working environments, personnel interviews, documentation and records, and verification of personnel certifications.

7.1.7 Appendix E contains the current Center review schedule. Due to the potential for change to accommodate coordination with the OSMA and environmental review schedules, the latest schedule of Center reviews shall be maintained on the OH Web site at www.ohp.nasa.gov.

7.2 Responsibilities

7.2.1 The Chief Health and Medical Officer (CHMO) shall be responsible for:

a. Ensuring that planned program reviews of NASA facilities are conducted;

b. Determining the value and adequacy of Center OH programs; and

c. Determining if Centers are providing adequate OH program resources.

7.2.2 The Director of Occupational Health shall be responsible for:

a. Assuring overall occupational health review process efficacy;

b. Appointing the team lead for Center reviews; and

c. Reviewing and approving occupational health review reports.

7.2.3 The OH Review Team Leader shall be the Agency's primary representative for the review process and shall be responsible for:

a. Implementing overall, the Agency's occupational health review process, including pre and post review aspects, real-time problem coordination and resolution, and briefing presentations;

b. Initiating contact with each Center prior to review;

c. Coordinating and exchanging information with each Center primary Point of Contact (POC);

d. Establishing each Center's review schedule and associated meetings;

e. Consulting with the Agency's Director of Occupational Health, as needed during the review, regarding nonconformance findings;

f. Providing the Center POC or Contracting Officer's Technical Representative (COTR) with a listing of nonconformance findings; and

g. Continually improving the occupational health review process.

7.2.4 Center Directors shall be responsible for the following:

a. Appointing a Center POC, with sufficient authority and OH knowledge to coordinate Center onsite reviews with the OCHMO, and to provide ready access to facilities and other logistical support;

b. Providing the review effort with adequate resources and personnel;

c. Attending the out-briefing or designating an alternate if he/she is unavailable;

d. Assuring the corrective action plan addresses all nonconformance findings;

e. Providing a corrective action plan to the OCHMO;

f. Providing adequate resources to resolve corrective actions;

g. Ensuring implementation of the requests for actions designated in the review; and

h. Notifying the OCHMO; Office of Safety and Mission Assurance's Safety Assurance Requirements Division, and OH Director of other Center reviews, audits, or visits from outside regulatory bodies, such as the Occupational Safety and Health Administration, the Nuclear Regulatory Commission (NRC), or state or local government organizations.

7.2.5 The Center primary POC shall be responsible for the following:

a. Coordinating and exchanging information with the OCHMO Team Leader:

(1) Providing a discipline-specific POC list to the OCHMO Review Team Leader, including names, mail and e-mail addresses, and phone numbers.

(2) Distributing review questionnaires from the Review Team Leader to Center personnel.

(3) Providing completed questionnaires and requested documentation to the Review Team Leader on time and in a concise electronic format.

b. Providing and coordinating support requirements:

(1) Arranging for badges and escort of the review team, where needed.

(2) Coordinating property and set up requirements for equipment use (e.g., laptop PCs, cameras, PDAs, wireless Internet access, etc.).

(3) Arranging for a private work area and a private interview room for the Agency Review Team.

(4) Arranging rooms and meeting announcements for in-briefings and out-briefings.

c. Supporting the onsite review:

(1) Supporting the in-briefing, out-briefing, and finding coordination meetings.

(2) Providing access to Center internal locations subject to the scope of the review.

(3) Providing onsite access to additional Center documentation, as needed.

(4) Providing wireless remote Internet access.

(5) Coordinating real-time issues and problems, as they arise, during the review process.

d. Providing postreview support:

(1) Coordinating nonconformance findings with Center Management, as needed.

(2) Overseeing preparation of the corrective action plan.

(3) Tracking Centers' nonconformance findings to closure.

7.2.6 Center discipline-specific points of contact shall be responsible for:

a. Being available during all parts of the review for their Agency Review Team counterparts;

b. Coordinating and exchanging OH discipline information with the appropriate OCHMO Review Team counterpart;

c. Supporting the review in-briefing and finding coordination briefings;

d. Providing objective evidence (e.g., documentation, all necessary records, licenses, etc.) as requested;

e. Escorting Agency Review Team personnel;

f. Reporting real-time issues and problems to the Center primary POC, as they arise, during the review process;

g. Coordinating and verifying with the Agency Review Team all specific discipline findings prior to the finding coordination meeting; and

h. Representing the Center at the finding coordination meetings, as applicable.

7.2.7 Mandatory requirements and responsibilities or individual OCHMO Review Team members and the OCHMO Secretary/Administrative Assistant to the OH Director are located in Appendix C.

7.3 Process Description

7.3.1 OH reviews shall be performed in accordance with the requirements of NPD 1210.2, NASA Surveys, Audits, and Reviews Policy, and shall compare NASA Center policies, procedures, and practices to (1) regulatory and other compliance requirements, (2) NASA Agency policy requirements, and (3) consensus standards.

7.3.2 A written report and program rating shall be prepared by OCHMO based on the OH review findings. The report and rating shall be provided to each Center, with a copy to the appropriate Mission Associate Administrator, Institutional Corporate Management, and Safety and Mission Assurance Directorates.

7.3.3 Centers are responsible for tracking and closing all nonconformance findings.

7.3.4 Table 1 provides the tasks and associated timelines for the OH review process.

Table 1

	Task	Timeline	Author
1	Memo to Center Directors with annual OH review schedule for upcoming year	By November 1 of the previous year	OCHMO

2	Electronic communication to Center COTR(s); provision of OH review questionnaires and a request for documents for OCHMO review	Approximately 60 days before OH review visit is scheduled to take place at the Center	OCHMO
3	Memo to Center Director announcing OCHMO's upcoming OH review	Approximately 30 days before OH review visit is scheduled to take place at the Center	OCHMO
4	Center-completed OH review questionnaires, requested documents, and discipline-specific POC information provided to OCHMO	30 days or more before OH review takes place or by the due date indicated in OCHMO's previous communication	Center POC/COTR
5	Written list of nonconformance findings provided to Center review POC/COTR	OH Review Formal Out brief	OCHMO
6	Memo and report to Center Director with the results of the OH review and a rating of the OH programs	Approximately 60 days after the last day of the OH review	OCHMO
7	Off-year OH self-reviews with supporting documentation, and status of previous nonconformance findings	During the off-years in the same month as the last onsite OCHMO occupational health review	Center Director

7.3.4.1 Task 1: OH reviews are conducted, by either OCHMO or the Center, annually and are set by the OCHMO, and are conducted (to the extent possible) during the same month at each respective Center. Also see Paragraph 7.1.8.

7.3.4.2 Task 2: Each Center COTR shall distribute the OH discipline-specific questionnaires and request for documents to the appropriate Centers' OH representatives. The Centers' OH representatives shall provide completed questionnaires and/or the documents requested by OCHMO to their COTR or other Center designated POC. The COTR or other Center-designated primary POC shall review the questionnaires, determine their viability, and return the questionnaires to the OCHMO Review Team Leader. Concurrently, or before the submittal of documents to OCHMO, the Center COTR or other designated POC shall also provide OCHMO with a list of OH disciplines technical POC's, Center security requirements and badging, in-brief and out-brief locations and any other logistical information needed for the OH review. All information shall be provided via e-mail or other electronic method, where feasible.

7.3.4.3 Task 3: A memo shall be sent from OCHMO to the Center Director to announce the upcoming OH review, including copies to the Center's Associate Administrator, Institutional Corporate Management, and Safety and Mission Assurance Directorates. The memo to the Center Director shall include OCHMO's detailed report of the OH review findings, including details about recurring nonconformances.

7.3.4.4 Task 4: Centers shall provide comprehensive answers to questions on questionnaire; documentation, discipline-specific POC's information, and other requested information in a concise and well organized electronic format. Questionnaires shall be in electronic format and inclusive and representative of all Center contractor and NASA activity under each OH discipline-specific questionnaire.

7.3.4.5 Task 5: A written listing of all nonconformance findings shall be provided to the Center POC or COTR at or before the out-briefing to Center management, in accordance with NPD 1210.2, NASA Surveys, Audits, and Reviews Policy.

7.3.4.6 Task 6: A memo, executive summary and comprehensive report containing the results of the review shall be provided to the Center Director.

7.3.4.7 Task 7: During years when an OCHMO-led review is not conducted at a Center, the Center shall perform an OH self-review during the same month of the regularly scheduled OCHMO onsite review and submit the review findings to the OCHMO Review Team Leader. The minimum elements of the self-review shall include: overall or general account of what was physically evaluated in each OH discipline are reviewed, names and qualifications of Center individual(s) conducting the reviews, dates and locations of each program or area reviewed, verification of compliance with other Federal, state, local, and Center regulations, a status and assessment of the previous OCHMO findings, and a corrective action plan for the nonconformance findings from the self-review. The Center report shall also describe any substantial improvement and/or degradation in each OH Program area. The Center self-review team members shall be qualified to conduct reviews in their specific program area per NPD 1210.2, NASA Surveys, Audits, and Reviews Policy, paragraph 5 (2).

7.3.5 The nonsubmittal of an OH self-review from the Center during an off-year shall be referred to the CHMO for decision on further action and reflected in the Center's subsequent onsite OH review detailed report.

7.3.6 Onsite OH Reviews

7.3.6.1 The OH review shall include an in-briefing, including introductions, the scope of the review, explanation of the mechanisms and review results, and coordination of other necessary details. The Center component of the in-briefing shall include introductions, a statement of open findings from previous reviews, and a summary of significant Center aspects affecting OH Programs since the last on-site OCHMO review. Those in attendance shall include at least one senior management representative with responsibility and authority over Center OH Programs.

7.3.6.2 The Center shall provide multidisciplinary coverage for the entire review period. The in-brief shall provide a forum for exchange of questions, information, and details regarding the review. It shall be an opportunity for the OH Review Team to offer expert information and advocacy, and to provide an opportunity for Center feedback on OH review process improvements. The Center shall present their top OH concerns and a status of any open or unresolved nonconformance findings from previous OH reviews.

7.3.6.3 Each OCHMO Team member shall coordinate with their OH discipline counterpart to confirm or clarify details of their parts of the review, discuss Center OH programs and processes, and plan area visits. OCHMO Review Team members shall collect pertinent objective evidence of their findings including, but not limited to, documentation and verification of facts through interviews, tours of work areas, observation of activities and the surrounding work environment and conditions, record reviews, and documentation accessibility and availability. Centers shall make all necessary records available to the OCHMO Review Team for review and assessment.

7.3.6.4 Center Directors shall ensure that adequate and professionally appropriate technical points of contact for each OH program are available and can participate in the OH review.

7.3.6.5 Immediately dangerous to life and health (IDLH) situations found during the OH review shall be addressed as follows:

7.3.6.6 The issues shall be immediately reported to the onsite Center supervisor responsible for the area. Subsequently, it shall be immediately reported to the OCHMO Review Team Leader and Center Team Leader. The OHMO reviewer shall not commence the review until the issue has been resolved and the situation is no longer IDLH.

7.3.6.7 The Out-briefing shall be presented by the OCHMO Review Team to the Center Director or his or her representative in a verbal executive summary format. OCHMO's presentation shall focus on the strengths, weaknesses, and significant nonconformance findings. Any best practices found during the OH review shall also be highlighted. Per NPD 1210.2, a written list of nonconformance findings shall be provided by the OCHMO Review Team Leader to the Center COTR at or before the out briefing.

7.3.6.8 A detailed written report shall be provided to the Center within approximately 60 days of the Out-brief. The written review report shall be a reiteration of the issues expressed in the Center Out-brief, including details of all review findings. The Center shall have approximately 60 days after receipt of the written report to reply to the OCHMO Review Team Leader with a corrective action plan describing remedial actions for the nonconformance findings. Center corrective action plans shall be approved and signed by the Center Director, and shall follow the narrative format and numbering system of the original OCHMO report.

7.3.6.9 The Center shall keep the OCHMO Review Team Leader informed of the status of corrective action report if a delay is anticipated. Corrective actions shall only be "closed" when the anomalous condition associated with the nonconformance no longer exists.

7.3.6.10 Findings shall be categorized as follows:

a. Commendation: A practice that exceeds requirements or is a time or cost-saving measure, without sacrificing OH objectives or requirements;

b. Recognition: The acknowledgement of a significant improvement or progress toward required Center OH program requirements or other positive noteworthy accomplishment not attaining levels commensurate with those of a commendation;

c. Opportunity for Improvement: A condition that meets compliance requirements but could or should be improved. Opportunities for Improvement are accompanied by "Recommendations" in the written report. Recommendations are not required to be addressed in the Center's corrective action plan or subsequent status reports; and

d. Nonconformance: A divergence from a compliance requirement (Federal, state, local, NASA Agency, NASA Center, etc.) or an applicable consensus standard (the American National Standards Institute, the National Institute for Occupational Safety and Health, the Environmental Protection Agency, etc.). These findings require Center response in the corrective action plan and subsequent status reports.

7.3.6.11 Working documents, reports, and results shall be permanently retained on file or in the Agency Health Electronic Database for use and future examination, unless deemed otherwise by the Director of Occupational Health.

Appendix A. Definitions

A.1 Ability and Risk Evaluations. Evaluations performed for the purpose of determining a worker's ability to perform specific job tasks (ability) and the likelihood of harm, either to the worker or others (risk), in relation to anticipated workplace exposures and job demands. Also includes the processes used to evaluate the ability of individuals to safely perform essential duties, if placed in a noisy work environment, and not pose a health or safety risk to themselves or others.

A.2 Action Level. An 8-hour time-weighted average of 82 decibels measured on the A-scale, slow response, or equivalently, a dose of 50 percent. Employee exposure at or above the action level shall trigger enrollment into a hearing conservation program.

A.3 Active Managerial Control. The purposeful incorporation of specific actions or procedures by management into the operation of their establishment to attain control over foodborne illness risk factors.

A.4 Administrative Control. Any procedure that limits noise exposure by restricting access to noise areas or by control of exposure times, distance, and/or work practices.

A.5 Audiometer. An electronic instrument used for measuring hearing threshold levels that conforms to the requirements and specification of the current American National Standard Institute (ANSI) S3.6, Specification for Audiometers standard.

A.6 Baseline Audiogram. The reference audiogram against which future audiograms are compared, typically resulting from an audiometric evaluation conducted at the time the employee is enrolled in the hearing conservation program. The baseline audiogram for one or both ears is replaced if the employee's hearing thresholds demonstrate either a persistent Standard Threshold Shift (STS) or a persistent improvement as defined in 4.8.3.l5.

A.7 Biological Agents. Pathogenic bacteria, viruses, fungi, and other microorganisms and their associated toxins that have the ability to adversely affect human health in a variety of ways, ranging from relatively mild, allergic reactions to serious medical conditions, even death.

A.8 "Buy Quiet and Quiet by Design" Program. A program that endeavors to achieve long-term reduction of employee noise exposures through purchase and design of equipment with the intention of achieving realistic and achievable noise criteria, which are considered before procurement or design, using criteria based on operational conditions as well as the noise outputs of equipment. The "Buy Quiet and Quiet by Design" approach requires designers and engineers to consider noise emission when purchasing and designing equipment that is expected to generate noise emission levels of concern for hearing conservation (80 dBA and higher).

A.9 Calibration. A check of proper functioning and stability of an audiometer, sound level meter or octave band analyzer, noise dosimeter, or audiometric test room by various means. In cases where methods or requirements vary, the methodology or specification that results in the most accurate data collection shall apply.

A.10 Competent Person. One who is capable of, and has been trained to, identify existing and predictable conditions, which may result from hazardous substances and articles.

A.11 Continuation of Pay (COP). Continuation of pay of an employee's regular pay for up to 45 calendar days due to a disability and/or medical treatment. COP is paid as salary (as opposed to compensation) and only in connection with a traumatic injury. Employees with occupational disease claims are ineligible to receive COP.

A.12 Controvert. To dispute, challenge, or deny the validity of a claim for COP on the basis of specific reasons such as: the injury occurred off premises and the employee was not engaged in authorized "off premises" duties, the injury was caused by the employee's willful misconduct or by the employee's intoxication by alcohol or illegal drugs, or the employee first reported the injury after employment termination.

A.13 Criterion Sound Level. An exposure level of 85 Decibel A-weighted (dBA) Time Weighted Average (TWA) (NASA's maximum occupational exposure level).

A.14 Decibel A-weighted (dBA). A sound level reading in decibels made on the A-weighted network of a Sound Level Meter (SLM) at slow response.

A.15 Decibels, Peak (dBP). The highest instantaneous sound level measured. Commonly used to measure impulsive or impact noise. This quantity cannot be measured on the slow response A-weighted scale.

A.16 De-rating. The process of reassigning the manufacturers' values of hearing protectors to more realistic, real-world performance values.

A.17 Design Review. A formal documented and systematic examination of a design to evaluate food service facilities and/or operations, including: food service facilities, water system construction or modifications, and sanitary facilities for buildings.

A.19 Developmental Toxicity. Adverse effects on the developing organism that may occur anytime from conception to sexual maturity and include such effects as spontaneous abortion, structural or functional defects, low birth weight, or effects that may appear later in life.

A.20 Dose. See Noise Dose.

A.21 Employer. NASA organizations and their associated contractors, to the extent specified in their respective contracts, and other Government agencies, their contractors, and tenants whose primary work is performed at a NASA Center.

A.22 Engineering Control. Any mechanical device or physical barrier that reduces the sound level at the source of noise generation or along the path of propagation of the noise to the potentially exposed individual. This does not include personal protective equipment such as earmuffs or plugs or administrative controls.

A.23 Exchange Rate. The increase or decrease in decibels corresponding to twice (or half) the noise dose. When using a 3 dB exchange rate, a dose corresponding to an exposure of 85 dBA TWA represents twice the dose associated with an 82 dBA TWA exposure.

A.24 First Aid Injuries. Those injuries wherein the employee is examined or treated at NASA's medical facilities or examined and treated by NASA contract medical providers during working hours beyond the date of injury. It also includes instances where two or more visits are made to a medical facility for examination or treatment during non-duty hours beyond the date of injury, as long as no leave or continuation of pay is charged and no medical expenses are incurred.

A.25 Food Establishment. Any operation, including childcare and NASA Exchange-operated facilities, that store, prepares, packages, vends, or otherwise provides food for human consumption at NASA facilities or on NASA property.

A.26 Food Inspectors. Persons who have received specific training in the area of food inspection and regulation, have received certification and/or standardization from an agency that regulates the food industry, or have been credentialed by a state or the National Environmental Health

Association.

A.27 Food Manager Certification. A written certification test that requires food managers to demonstrate a basic knowledge of food protection practices.

A.28 Hazard. A biological, physical, or chemical property that may cause a food to be unsafe for human consumption.

A.29 Hazard Analysis Critical Control Point (HACCP) Methodology. A prevention-based food safety management system that identifies and monitors specific food safety hazards that can adversely affect the safety of food products.

A.30 Hazardous Noise Area. Any work area where the environmental noise level is at or above 85 dBA, or where the environmental impulse noise level is at or above 140 dB peak C or linear, regardless of duration of exposure or number of impulses.

A.31 Hazardous Substance or Article. Any material, object, or agent that, because of its quantity, concentration, physical, chemical, infectious, radioactive, or toxic properties poses a significant present or potential hazard to human health and safety by its misuse or if released into the workplace or the environment. This includes, but is not limited to, any substance listed in Appendix A of this section. (A partial list of hazardous substances and articles is included in Appendix A.)

A.32 Hearing Threshold Level (HTL). The hearing level, above a reference value (audiometric zero), at which a specified sound or tone is heard by an ear in a specified fraction of the trials. For pure-tone air-conduction audiometry, hearing levels are sound pressure levels of pure tones at audiometric frequencies, such that 0 dB HTL, or audiometric zero, typifies the threshold of hearing of young otologically-normal persons.

A.33 Impulsive or Impact Noise. Variations in noise levels that involve peaks of intensity that occur at intervals of greater than 1 second. If the noise peaks occur at intervals of 1 second or less, the noise is considered continuous.

A.34 Major Food Safety Incident. Any of the following or related events occurring at an establishment on NASA property or regularly serving NASA personnel: a known poisoning resulting in hospitalization; two or more suspected poisonings; any known or suspected incident of food contamination resulting or potentially resulting in exposure to personnel; or any similar or related incidents. All major food safety incidents will be categorized and investigated based on NPR 8621.1, NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping.

A.35 Maximal medical improvement. A condition or state that is well stabilized and unlikely to change substantially in the next year, with or without medical treatment. Over time, there may be some change; however, further recovery or deterioration is not anticipated.

A.36 Nanoparticles. Materials that have at least one dimension (e.g., length, width, height, diameter) that is less than 100 nanometers. Nanoparticles may be suspended in a gas (e.g., nanoaerosol), suspended in a liquid (e.g., nanocolloid or nanohydrosol), or embedded in a matrix (e.g., nanocomposite).

A.37 Nanometer (nm). 1 x 10-9 meters or one millionth of a millimeter.

A.38 Noise Dose. A measure of cumulative noise exposure over a stated time period, which takes into account both the intensity of sound and the duration of exposure. Dose is a dimensionless quantity that represents the amount of actual noise exposure relative to the amount of allowable noise exposure (criterion level) and for which 100 percent and above represents noise exposures that

are hazardous.

A.39 Noise Dosimeter. An instrument that integrates a function of sound pressure over a period of time in such a manner that it directly indicates a noise dose.

A.40 Noise Reduction Rating (NRR). A noise reduction value, in decibels, averaged across the frequencies from 125 Hz to 8 kHz and computed from laboratory tests of the attenuation of hearing protectors measured under ideal conditions. The NRR, per a 1979 Environmental Protection Agency (EPA) regulation, is required to appear on all devices worn on the head or ear that are sold for purposes of personal noise reduction. See "Derating."

A.41 Noise Survey. A periodic or event-driven investigation of a hazardous noise, Standard Threshold Shift (STS), or other driving condition for the purposes of determining the noise levels, frequencies, and other sound characteristics as they relate to employee exposure.

A.42 Occupational disease or illness. A condition produced by the work environment over a period longer than one work day or shift. It may result from infection, repeated stress or strain, or repeated exposure to toxins, poisons, fumes or other continuing conditions of the work environment.

A.43 Occupational Hearing Conservationist (OHC). Also known as an industrial audiometric technician. A person who is certified by the Council on Accreditation for Occupational Hearing Conservation (CAOHC) and conducts the practice of hearing conservation, including pure-tone air-conduction hearing testing and other associated duties under the supervision of an audiologist or physician.

A.44 Packaged food must be labeled in accordance with respective Federal, state, and local regulations, and the FDA Food Code. Proper labeling includes name of manufacturer and an accurate statement of the contents.

A.45 Potentially Hazardous Food. A food that is natural or synthetic and that requires temperature control because it is capable of supporting the rapid and progressive growth of infectious or toxigenic microorganisms, the growth and toxin production of Clostridium botulinum, or in raw shell eggs, the growth of Salmonella enteritidis. Includes foods of animal origin that are raw or heat-treated; foods of plant origin that are heat-treated or consist of raw seed sprouts, cut melons, and garlic in oil mixtures that are not acidified or otherwise modified at a processing plant in a way that results in mixtures that do not support growth of pathogenic microorganisms as previously described.

A.46 Representative Exposure. Measurements of an employee's noise dose or 8-hour time-weighted average sound level that is representative of the exposure of other employees exposed to the same noise hazard.

A.47 Revised Baseline. The most recent audiogram that has established a persistent STS upon retest or a significant improvement. Baseline revisions shall be used as the basis of comparison for future audiograms. Since ears are considered separately when making baseline revisions, it is possible for someone to have baseline audiograms from different years, as well.

A.48 Reproductive Toxicity. Adverse effects on the health of the reproductive organs, endocrine system, or gametes (egg or sperm) from exposure to an exogenous agent that may result in effects such as menstrual dysfunction, impaired fertility, feminization/masculinization, or inability to maintain a pregnancy.

A.49 Risk-Based Inspection. An assessment of the degree of active managerial control that an operator has over the foodborne illness risk factors in the establishment; and the focusing of inspections on the control of foodborne illness risk factors, which embody a preventive rather than

reactive approach to food safety.

A.50 Risk Factor. One of the broad categories of contributing factors to foodborne illness outbreaks, as identified in the Centers for Disease Control and Prevention (CDC) Surveillance Report for 1993-1997, that directly relates to foodborne safety concerns within retail and food service establishments. The factors are: Food from Unsafe Sources, Inadequate Cooking Temperatures, Improper Holding Temperatures, Contaminated Equipment, and Poor Personal Hygiene.

A.51 Significant Improvement. A significant improvement is shown if the average of thresholds at 2000, 3000, and 4000 Hz for either ear shows an improvement of 5 dB or more from the baseline audiogram.

A.52 Sound Pressure Level (SPL). 20 times the common logarithm of the ratio of the square of the measured A-weighted sound pressure to the square of the standard reference pressure of 20 micropascals.

A.53 Standard Threshold Shift (STS). A decline in hearing threshold, relative to the baseline audiogram, of an average of 10 dB or more at 2000, 3000, and 4000 Hz in either ear.

A.54 Temporary Event. A food establishment that operates in conjunction with a single event or celebration.

A.55 Traumatic injury. A wound or other condition of the body caused by external force, including stress or strain. It must occur at a specific time and place and must affect a specific area or function of the body. The injury must be caused by a specific event or incident or series of events or incidents within a single day or work shift. Traumatic injuries include damage to personal appliances or devices, such as dentures, artificial limbs, eye glasses, and hearing aids when the injury ultimately required medical attention.

A.56 Vector. An organism that is capable of transmitting a pathogen from one organism to another.

A.57 Vermin. Any of various small animals or insects that are destructive or pose a health hazard to humans, plants, or animals in the environment.

A.58 Work Role Position. Any job or position at a Center that does not change appreciably when a contract is awarded to a new contractor and the same employee of the former employer occupies the position.

Appendix B. Acronyms

Acronym/ Abbreviation	Name for Acronym/Abbreviation
ABSL	Animal Biosafety Level
ACGIH	American Conference of Governmental Industrial Hygienists
ACS	American Cancer Society
ACSM	American College of Sports Medicine
AED	Automatic External Defibrillator
AIHA	American Industrial Hygiene Association
ALARA	As Low As Reasonably Achievable
ALS	Advanced Life Support
ALT	Alanine Transaminase
AME	Aviation Medical Examiner
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ATSDR	Agency for Toxic Substances and Disease Registry
BBP	Bloodborne Pathogen
Be-LPT	Beryllium Lymphocyte Proliferation Test
BMI	Body Mass Index
BP	Blood Pressure
BSL	Biosafety Level
BUN	Blood Urea Nitrogen
B2-M	Beta-2 Microglobulin in Urine
CAOHC	Council for Accreditation in Occupational Hearing Conservation
CBC	Complete Blood Count
CdB	Cadmium in Blood
CDC	Center for Disease Control
CdU	Cadmium Urine
CHMO	Chief Health and Medical Officer

CFR	Code of Federal Regulations
CISD	Critical Incident Stress Debriefing
CISM	Critical Incident Stress Management
CNS	Central Nervous System
COOP	Continuity of Operations Plan
COP	Continuation of Pay
COTR	Contracting Officer's Technical Representative
CV	Cardiovascular
DASHO	Designated Agency Safety and Health Officer
DFWP	Drug Free Workplace
DHHS	Department of Health and Human Services
DNA	Deoxyribonucleic Acid
DOE	Department of Energy
DOH	Director of Occupational Health
DOL	Department of Labor
DOT	Department of Transportation
EAP	Employee Assistance Program
ECG	Electrocardiograph
EH	Environmental Health
EHRS	Electronic Health Record System
EMS	Emergency Medical Services
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FDA	Food and Drug Administration
FECA	Federal Employees Compensation Act
FEHP	Federal Employee Health Program
FEHBP	Federal Employee Health Benefits Program
FEV 1	Forced Expiratory Volume in the 1st Second
FFD	Fitness For Duty
FVC	Forced Vital Capacity
FWC	Federal Workers' Compensation
g or gm	Gram
GI	Gastro Intestinal

GXT	Graded Exercise Test
HACCP	Hazard Analysis Critical Control Point
HazMat	Hazardous Materials
HCP	Hearing Conservation Program
HCT, Hct	Hematocrit
HDL	High Density Lipoprotein
HgB	Hemoglobin
HHS	Health and Human Services
HIMS	Health Information Management System
HIPAA	Health Information Portability and Accountability Act
HIV	Human Immunodeficiency Virus
HMTA	Health and Medical Technical Authority
HPD	Hearing Protection Device
HPW	Health Promotion Working Group
HRA	Health Risk Assessment
HRO	Human Resource Office
IAQ	Indoor Air Quality
ICC	Infection Control Committee
ICO	Infection Control Officer
ICP	Infection Control Plan
IDLH	Immediately Dangerous to Life and Health
IEEE	The Institute of Electrical and Electronics Engineers
IH	Industrial Hygiene
IPM	Integrated Pest Management
JSC	Johnson Space Center
KSC	Kennedy Space Center
LDL	Low Density Lipoprotein
LSC	Laser Safety Committee
LSO	Laser Safety Officer
MBOCA	4,4'-Methylenebis(2-chloroaniline)
MC	Methylene Chloride
MCH	Mean Corpuscular Hemoglobin

MCHC	Mean Corpuscular Hemoglobin Concentration
MCV	Mean Corpuscular Volume
MDA 4,4	Methylene Dianiline
MDI	Methylene Diphenyl Isocyanate or Methylene Diisocyanate
mL	Milliliter
MMR	Measles, Mumps and Rubella
MOCA	4,4'-Methylenebis(2-chloroaniline)
MRO	Medical Review Officer
MSD	Musculoskeletal Disorder
NASA	National Aeronautics and Space Administration
NCRP	National Council on Radiation Protection
NFPA	National Fire Protection Association
NIH	National Institutes of Health
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NPD	NASA Policy Directive
NPR	NASA Policy Requirements
NRC	Nuclear Regulatory Commission
NRR	Noise Reduction Rating
NSSC	NASA Shared Services Center
NVLAP	National Voluntary Laboratory Accreditation Program
OCHMO	Office of the Chief Health and Medical Officer
OEL	Occupational Exposure Limit
OHCM	Office of Human Capital Management
OHP	Occupational Health Program
OM	Occupational Medicine
OSHA	Occupational Safety and Health Administration
OSMA	Office of Safety and Mission Assurance
PA	Posterior to Anterior (Chest x-ray view)
PAAMHR	Predicted Age Adjusted Maximum Heart Rate
PAP	Papanicolaou Smear
PAPR	Powered Air Purifying Respirator
PARQ	Physical Activity Readiness Questionnaire

PCB	Polychlorinated Biphenyls
PEL	Permissible Exposure Limit
PLHCP	Physician or other Licensed Health Care Provider
PNS	Peripheral Nervous System
POC	Point of Contact
PPD	Purified Protein Derivative used in TB Skin Testing
PPE	Personal Protective Equipment
PSA	Prostate Specific Antigen
QA	Quality Assurance
REL	Recommended Exposure Limit
RSO	Radiation Safety Officer
RF	Radio Frequency
RTW	Return To Work
SCAPE	Self Contained Atmospheric Protective Ensemble
SEG	Similar Exposure Groups
SEHO	Senior Environmental Health Officer
SGPT	Alanine Transaminase
SHARE	Safety, Health, and Return to Employment
SOAP	Subjective Objective Assessment Plan
SOW	Statement of Work
STS	Standard Threshold Shift
TAL	Transoceanic Abort Landing
TB	Tuberculosis
Td	Tetanus Diptheria
Tdap	Tetanus, Diptheria, and Pertussis
TDI	Toulene Diphenyl Isocyanate or Toluene Diisocyanate
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
ug	Microgram
um	Micrometer
USCG	United States Coast Guard

USDA	United States Department of Agriculture
USPSTF	U.S. Preventive Services Task Force
ViTS	Video Teleconferencing Service
VOC	Volatile Organic Compound
WBC	White Blood Count
WC	Workers' Compensation
WCO	Workers' Compensation Office
ZPP	Zinc Protoporphyrin

Appendix C. Physical Examination Matrix

1. Specific Potentially Hazardous Exposures

	Exam	Regulation
A.	Arsenic	29 CFR Part 1910.1018
B.	Asbestos	29 CFR Part 1910.1001 29 CFR Part 1926.1101
C.	Benzene	29 CFR Part 1910.1028
D.	Beryllium	10 CFR Part 850 (DOE) NIOSH
E.	Cadmium	29 CFR Part 1910.1027 29 CFR Part 1926.1127
F.	Chromium	29 CFR Part 1910.1026 29 CFR Part 1926.1126
G.	Ethylene Oxide	29 CFR Part 1910.1047
H.	Formaldehyde	29 CFR Part 1910.1048
I.	Hydrazines	NIOSH
J.	Isocyanates	NIOSH
K.	Lead	29 CFR 1910.1025 29 CFR 1926.62
L.	Mercury	OSHA CPL 02-02-006 NIOSH, ATSDR
M.	Methylene Chloride	29 CFR Part 1910.1052 ATSDR
N.	4,4' Methylenebis (2-chloroaniline) (MOCA, MBOCA)	NIOSH, ATSDR, OSHA
O.	4,4' Methylenedianiline (MDA)	29 CFR 1910.19, 1910.1050 and 1926.60
P.	Nitrogen Tetroxide (Dioxide)	NIOSH
Q.	Polychlorinated Biphenyls (PCB)	ATSDR NIOSH Current Intelligence Bulletin 45, February 24, 1986
R.	Silica Dust	29 CFR 1910.1000, 29 CFR 1915, OSHA CPL 2-2.7, NIOSH

S.	Trichloroethylene	NIOSH

2. Hazardous Environments/ Workplace Examinations

	Exam	Regulation
A.	Bloodborne Pathogens	20 CFR 1910.1030
B.	Chemistry Laboratory	29 CFR 1910.1450
C.	Hazardous Waste Operations and Emergency Response	29 CFR 1910.120
D.	Health Care Provider	29 CFR 1910.1030, CDC
E.	Ionizing Radiation	10 CFR 20.1502
F.	Lasers	ANSI Z 136.1
G.	Noise	29 CFR 1910.95 NPR 1800.1B Chapter 4.9
H.	Pesticides	
I.	Spray Painting	
J.	Water and Sewage	
K.	Welding	NIOSH Criteria Document No. 88-110

3. Certification Examinations

	Exam	Regulation
A.	Childcare Workers	
B.	Confined Space/Tank Entry	29 CFR 1910.134
C.	Crane Operator/Ground Floor/Remote-Operation/High/Cabin/Pulpit	NS 8719.9 ASME B30.2-2001
D.	Diver	29 CFR 1910.423 29 CFR 1910.424
E.	DOT/Commercial Driver License/Motor Vehicle Certification/Multiple Passenger Van	49CFR 391.41-49 49 CFR 240.12

F.	Down Range/Shipboard Duty	46 CFR Subpart 10 and 12
G.	Firefighter	NFPA 1582
H.	Food Handler	46 CFR 12.25-20 NPR 1800.1B Chapter 4.10
I.	Locomotive Engineer	49 CFR 240.121
J.	Motive (Heavy) Equipment Operator	
K.	Occupational Respirator Use	29 CFR 1910.134 29 CFR 1910.134 Appendix A
L.	Ordnance Handler	
M.	Primary Animal Contact	
N.	Primary Crew Contract	JSC 22538
O.	Security	
P.	Self Contained Atmospheric Protective Ensemble	29 CFR 1910.134
Q.	Soldering	
R.	Voluntary Respirator Use	29 CFR 1910.134 29 CFR 1910.134 Appendix A

4. Flight Activities

	Exam	Regulation
A.	First Class Airman's Medical Certificate	14 CFR 67 NPR 7900.3
B.	Second Class Airman's Medical Certificate	14 CFR 67 NPR 7900.3
C.	Third Class Airman's Medical Certificate	14 CFR 67
D.	Air Traffic Control Specialist or Flight Crew	OPM GS-2152
E.	Qualified Non-Crew Member	

5. Special Administrative Examinations

	Exam	Regulation
A.	Fitness for Duty	NPR 1800.1B
B.	Return to Work	NPD 1840.1B NPR 1800.1B
C.	International Travel	NPR 1810.1A

6. Voluntary Health Maintenance

	Exam	Regulation
A.	Complete Health Maintenance Examination	FEBHP NPR 1800.1B
B.	Annual Health Maintenance Examination	FEBHP NPR 1800.1B
C.	Fitness Center Clearance	NPR 1800.1B

EXAMINATION PROTOCOLS

1. Surveillance Examinations for Workers with Specific Potentially Hazardous Exposures

A. Arsenic	
Reference	OSHA 29 CFR Part 1910.1018
Frequency	1. Baseline Examination 2. Annual Exam, if less than 45 years old 3. Semiannually, if 45 years old or older, or with 10 or more years of exposure 4. Variable or Exposure-Determined Examination 5. Exit/Reassignment Examination
Laboratory	1. Chest X-ray (PA) 2. Discretionary Tests a. Pulmonary Function b. Complete Blood Count

Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on peripheral and CNS, GI system, skin including nasal mucosa, respiratory tract, and thyroid 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Liver, kidneys, skin, lungs, lymphatic system, CNS, PNS
Written Opinion	Standard Written Medical Opinion
Medical Removal	No requirement in standard

B. Asbestos	
Reference	OSHA 29 CFR Part 1910.1001 OSHA 29 CFR Part 1926.1101
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination 4. Exit/Reassignment Examination
Laboratory (TX)	1. Chest X-ray (PA) (Must be read by "B reader"): a. Baseline b. Periodic: i. 1-10 years since first exposure: 1. every 5 years ii. 10+ years since first exposure, and: 1. below age 35, every 5 years 2. age 35-45, every 2 years 3. age 45+, annually 2. Pulmonary Function 3. Discretionary Tests a. Hemocult b. PPD c. Urinalysis (dipstick)
Physical Exam	1. Required Asbestos Questionnaire (Standardized on initial exam, Abbreviated Standardized on annual exam) 2. Physical Examination with focus on respiratory, CV, and GI systems 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use

Target Organs	Respiratory/lungs, pleural (Mesothelioma), gastrointestinal
Written Opinion	Standard Written Medical Opinion for Asbestos within 30 days, including statement that employee was informed of the increased risk of lung cancer attributable to combined effect of smoking and asbestos.
Medical Removal	No requirement in standard

C. Benzene	
Reference	OSHA 29 CFR Part 1910.1028
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination
Laboratory	1. Complete Blood Count (CBC) including a leukocyte count with differential, a quantitative thrombocyte count, hematocrit, hemoglobin, erythrocyte count, and erythrocyte indices (MCV, MCH, MCHC). (Repeat within 2 weeks if abnormal, refer to standard for action level) 2. Pulmonary Function (if employee wears respirator, initial exam and then every 3 years) 3. For Emergency Exposures Only: a. Urine sample provided at the end of employee's shift for urinary phenol test within 72 hours and urine specific gravity corrected to 1.024. b. If urinary phenol test is equal to or greater than 75 mg phenol/L of urine, repeat Complete Blood Count monthly for 3 months. 4. Discretionary Tests: a. Refer to Appendix C of standard for guidance
Physical Exam	1. Detailed Medical and Occupational History initially, brief update annually 2. Complete Physical Examination with focus on the blood, skin, CNS, and liver and kidney function 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Eyes, respiratory, CNS, skin, blood/bone marrow
Written Opinion	Standard Written Medical Opinion within 15 days
Medical Removal	Required when referred to hematologist/internist

D. Beryllium	
Reference	10 CFR Part 850 (DOE rule)
Frequency	1. Baseline Examination 2. Annual Examination for beryllium workers 3. Every 3 years for beryllium associated workers 4. Variable or Exposure-Determined Examination
Laboratory	1. Chest X-ray (PA) (Must be read by "B reader"): a. Baseline b. Every 5 years 2. Pulmonary Function 3. Be-LPT (for significant exposure)
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on skin, eyes, and respiratory tract 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Respiratory, kidney, CNS, liver, skin, eyes
Written Opinion	Standard Written Medical Opinion within 14 days of receipt of results
Medical Removal	Required based upon medical recommendation
Multiple Physician Review Process	Required if requested by examinee (see CFR)

E. Cadmium	
Reference	OSHA 29 CFR Part 1910.1027 OSHA 29 CFR Part 1926.1127
Frequency	1. Baseline Examination 2. Annual Examination 1 year following Baseline Examination 3. Biennially Examination (see standard for guidance on frequency with abnormal laboratory findings) 4. Variable or Exposure-Determined Examination 5. Exit/Reassignment Examination
Laboratory	Annual Laboratory: 1. Cadmium in urine (CdU) (See Appendix F for protocol for sample handling and laboratory selection) 2. Beta-2 microglobulin in urine (B(2)-M) 3. Cadmium in blood (CdB) 4. BUN and Serum Creatinine

	5. Complete Blood Count (CBC) 6. Chest X-ray (PA) a. Baseline b. Exit/Reassignment 7. Pulmonary Function 8. Discretionary Tests: a. Annual Chest X-ray b. PSA (for males 50 years and older) c. Urinalysis
Physical Exam	1. Cadmium Exposure Questionnaire required (Appendix D in CFR) 2. Complete Physical Examination with focus on blood pressure, respiratory, and urinary systems (refer to health effects Appendix A) 3. Prostate palpation, males 40 years and older 4. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Written Opinion	Standard Written Medical Opinion for Cadmium
Medical Removal	Required
Multiple Physician Review Process	Required if requested by examinee (see CFR)

F. Chromium	
Reference	OSHA 29 CFR 1910.1026, 29 CFR Part 1926.1126
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination 4. Exit/Reassignment Examination
Laboratory	Discretionary
Physical Exam	1. Medical and Occupational History 2. Physical Exam with focus on skin and respiratory tract
Target Organs	Respiratory, liver, kidney, eye, skin
Written Opinion	Standard Written Medical Opinion within 30 days
Medical Removal	No requirement in standard

G. Ethylene Oxide

Reference	OSHA 29 CFR Part 1910.1047
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination 4. Exit/Reassignment Examination
Laboratory	1. Complete Blood Count (CBC) with differential 2. Discretionary Tests: 3. Pregnancy test 4. Laboratory evaluation of fertility if requested by examinee and considered appropriate by provider 5. Blood Chemistry Panel 6. Urinalysis
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on pulmonary, hematologic, neurologic, and reproductive system, and eyes and skin. 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Respiratory, blood, CNS, reproductive, eye, skin, liver, kidney
Written Opinion	Standard Written Medical Opinion within 15 days
Medical Removal	No requirement in standard

H. Formaldehyde	
Reference	OSHA 29 CFR Part 1910.1048
Frequency	1. Baseline Examination 2. Annual Examination (for employees required to wear respirator, others discretionary) 3. Variable or Exposure-Determined Examination 4. Exit/Reassignment Examination
Laboratory	1. Pulmonary Function (for required respirator use) a. Baseline b. Annual
Physical Exam	1. Medical and Occupational History (nonmandatory medical disease questionnaire - Appendix D in CFR is recommended) 2. Physical Examination with focus on eyes, skin, mucous membranes, and allergies and allergic reactions 3. Evaluation of ability to wear respirator may be

	required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Respiratory, eyes, skin
Written Opinion	Standard Written Medical Opinion for Formaldehyde within 15 days of results
Medical Removal	Required
Multiple Physician Review Process	Required if requested by examinee (see CFR)

I. Hydrazines	
Reference	
Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	1. Baseline Chest X-ray 2. Complete Blood Count 3. Liver Profile 4. Urinalysis with microscopic 5. Discretionary: 1. Pulmonary Function
Physical Exam	1. Medical and Occupational History 2. Physical Examination 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Eyes, respiratory, skin, CNS, liver, kidneys
Written Opinion	No requirement in standard
Medical Removal	No requirement in standard

J. Isocyanates (e.g., Methylene Diisocyanate (MDI), Toluene Diisocyanate (TDI).)	
Reference	NIOSH 78-215
Frequency	1. Baseline Examination 2. Variable or Exposure Determined Examination 3. Annual Examination
Laboratory	1. Pulmonary Function 2. Chest X-ray (PA) at 5-year intervals

Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on respiratory system, skin, and mucous membranes (Isocyanates are potent sensitizers. Acute exposures may cause severe airway obstruction.) 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Eyes, respiratory, kidney, liver, skin, CNS
Written Opinion	No requirement in standard
Medical Removal	No requirement in standard

K. Lead	
Reference	OSHA 29 CFR 1910.1025 OSHA 29 CFR 1926.62
Frequency	1. Baseline Examination 2. Annual Examination for employee's with blood lead over 40ug/100g in the preceding 12 months 3. Variable or Exposure-Determined Examination 4. Exit/Reassignment Examination
Laboratory	1. Blood Lead and ZPP (Baseline and every 6 months) 2. If Blood Lead is at or above 40ug/100g, repeat every 2 months 3. Repeat blood lead 2 weeks after any test is at or above 60ug/100g (requires medical removal) 4. During Medical Removal, Blood Lead and ZPP monthly 5. Hemoglobin and Hematocrit, red cell indices, and examination of peripheral smear morphology 6. BUN and Serum Creatinine 7. Urinalysis with microscopic 8. Discretionary Tests: a. Pregnancy/fertility testing, if employee requests
Physical Exam	1. Medical and Occupational History 2. Complete Physical Examination with focus on teeth, gums, hematological, GI, CV, renal, and neurological system. 3. Blood Pressure 4. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Pulmonary, kidney, blood, reproductive, CNS, gastrointestinal, CV, gums, teeth, eyes

Written Opinion	Standard Written Medical Opinion for all evaluations and employee written notification of blood level results over 40ug/100g within 5 business days
Medical Removal	Required (see CFR for criteria)
Multiple Physician Review Process	Required if requested by examinee (see CFR)

L. Inorganic Mercury	
Reference	OSHA CPL 02-02-06
Frequency	1. Baseline Examination 2. Annual Interim History 3. Variable or Exposure-Determined Examination
Laboratory	1. Complete Blood Count (CBC) 2. Urinalysis 3. Voluntary pregnancy test, where appropriate 4. Urine mercury level (for history of exposure, recommend all employees in given work area be tested at the same time). If exposed above PEL test every 3 months, if below PEL test every 6 months.
Physical Exam	1. Medical and Occupational History (annual interim history) 2. Physical Examination with focus on central nervous and respiratory systems, kidneys, and skin. 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Liver, kidney, CNS, PNS, lung, eye, mucous membranes
Written Opinion	Standard Written Medical Opinion
Medical Removal	No requirement in standard

M. Methylene Chloride	
Reference	OSHA 29 CFR Part 1910.1052
Frequency	1. Baseline Examination 2. Annual Medical and Occupational History Update 3. Examination Frequency Age Determined: a. Annual, if age 45 or older b. Every 36 months under age 45 4. Variable or Exposure-Determined Examination 5. Exit/Reassignment Examination

Laboratory	• Discretionary:
	  • Pulmonary Function
	  • Hemoglobin and Hematocrit
	  • ALT, SGPT
	  • Post-shift Carboxyhemoglobin
	  • ECG

Physical Exam	• Methylene Chloride Questionnaire required (annual interim history) • Physical Examination focus on employee health status and analysis of questionnaire responses • Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Respiratory, CV, liver, CNS, skin, blood
Written Opinion	Standard Written Medical Opinion for Methylene Chloride with the following within 15 days of completion of medical and laboratory findings but not more than 30 days past examination including: • Statement that the physician has informed the employee Methylene Chloride (MC) is a potential carcinogen risk • The risk factors for heart disease, and the potential exacerbation of underlying heart disease from MC exposure and its metabolism to carbon monoxide
Medical Removal	Required
Multiple Physician Review Process	Required if requested by examinee (see CFR)

N. 4,4' Methylenebis (2-chloroaniline) (MOCA, MBOCA)	
Reference	NIOSH Publication No. 78-188
Frequency	1. Baseline Examination 2. Annual Examination 3. Laboratory only every 6 months (employees working directly in production or handling for 10 years or longer)
Laboratory	1. Complete Blood Count (CBC) 2. Blood Chemistry Profile 3. Urinalysis with microscopic 4. Chest X-ray
Physical Exam	1. Medical and Occupational History 2. Focused Physical Examination
Target Organs	Liver, blood, kidneys
Written Opinion	No requirement in standard

Medical Removal	No requirement in standard

O. 4,4' Methylenenedianiline (MDA)	
Reference	OSHA 29 CFR 1910.1050
Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	1. Blood Chemistry Profile 2. Urinalysis with microscopic
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on skin disease and liver dysfunction 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Skin, eyes, liver, CV, spleen
Written Opinion	Standard Written Medical Opinion required
Medical Removal	Required
Multiple Physician Review Process	Required if requested by examinee (see CFR)

P. Nitrogen Tetroxide (Dioxide)	
Reference	
Frequency	Baseline Examination
Laboratory	Discretionary
Physical Exam	• Medical and Occupational History • Physical Examination with focus on pulmonary system, skin, and eyes
Target Organs	Eyes, respiratory, CV
Written Opinion	No requirement in standard
Medical Removal	No requirement in standard

Q. Polychlorinated Biphenyls (PCB)	
Reference	NIOSH Current Intelligence Bulletin 45, February 24, 1986

Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination 4. Exit/Reassignment Examination
Laboratory	1. Blood Chemistry 2. Complete Blood Count 3. Urinalysis 4. Chest x-ray (baseline) 5. Discretionary Tests: a. ECG b. Pulmonary Function c. Fecal Occult
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on the skin, liver, and nervous system. 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Skin, liver, CNS
Written Opinion	No requirement in standard
Medical Removal	No requirement in standard

R. Silica Dusts	
Reference	NIOSH Publication No. 2002-129, OSHA 29 CFR 1910.1000
Frequency	• Baseline Examination • Annual Examination • Variable or Exposure-Determined Examination
Laboratory	• Chest X-ray (Must be read by "B reader"): • Baseline • Every 5 years for workers exposed less than 20 years • Every 2 years for workers exposed over 20 years • Pulmonary Function • PPD
Physical Exam	• Medical and Occupational History • Physical Examination with focus on respiratory system • Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification

	Examination. Occupational Respirator Use
Target Organs	Lungs/respiratory, eyes
Written Opinion	Standard Written Medical Opinion including: • Signs and symptoms of silica exposure manifested by the employee • Report of chest x-ray and pulmonary function test • Opinion on whether employee has detected medical condition that may place employee at increased risk of impairment to the employees health from exposure to silica or other substances or would directly or indirectly aggravate any detected medical condition • Any recommended limitations upon employee's exposure to silica or other substances or upon use of Personal Protective Equipment (PPE) and respirators • Statement employee has been informed by the physician of any medical condition which requires further examination or treatment
Medical Removal	No requirement in standard

S. Trichloroethylene	
Reference	
Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	Discretionary
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on cardiac, pulmonary, liver, and kidneys 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Respiratory, CV, kidney, liver, skin, CNS, eyes
Written Opinion	No requirement in standard
Medical Removal	No requirement in standard

2. Hazardous Environments/Workplace Examinations

A. Bloodborne Pathogens

Reference	OSHA 20 CFR 1910.1030
Frequency	1. Baseline Examination (for occupational groups covered under the standard) 2. Variable or Exposure-Determined Examination
Laboratory	1. Hepatitis B Vaccine 2. Hepatitis B Surface antibody (HepBSAb)Titer (required one time only after 3rd dose completed) 3. Declination statement must be signed if Hepatitis B Vaccine declined by employee (Appendix A of OSHA Standard) 4. Discretionary: Post-exposure a. Victim: HIV test, HepBSAb if not already documented, and HepCAb (other tests per provider) b. Source (after consent given): HIV test (rapid screen if available), HepB Surface Antigen (HepBSAg), and HepCAb (other tests per provider) c. If any HIV test is performed because of a specific occupational exposure, then a confidential ID system and a secure method to receive the test results shall be insured for both victim and source.
Physical Exam	1. Medical and Occupational History 2. Focused Physical Examination (discretionary)
Target Organs	Multiple organs
Written Opinion	Standard Written Medical Opinion required within 15 days of completion of evaluation including whether Hepatitis B immunization is indicated and if the employee has received such vaccine
Medical Removal	No requirement in standard

B. Chemical Laboratory	
Reference	OSHA 29 CFR 1910.1450
Frequency	Variable or Exposure-Determined Examination
Laboratory	1. Discretionary: a. Blood Chemistry Profile b. Complete Blood Count (CBC) c. Chest X-ray d. Pulmonary Function e. Urinalysis

	f. Visual Acuity
Physical Exam	1. Medical and Occupational History 2. Focused Physical Examination 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Multiple organs, especially eyes, skin, liver
Written Opinion	Standard Written Opinion required
Medical Removal	No requirement in standard

C. Hazardous Waste Operations and Emergency Response	
Reference	OSHA 29 CFR 1910.120, Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination 4. Exit/Reassignment Examination
Laboratory	1. Audiogram (Baseline) 2. Visual Acuity, Color Discrimination, Visual Fields 3. Complete Blood Count (CBC) 4. Blood Chemistry 5. Urinalysis 6. Chest X-Ray (Baseline) 7. Discretionary Tests: a. ECG b. Exercise Stress Test c. Pulmonary Function d. Other based on specific exposure (see Guidance Manual) e. Chest X-Ray (Followup)
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on worker's fitness, including ability to wear any required PPE, back or musculoskeletal problems, heat stress, claustrophobia 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use 4. Employee may also be covered by Bloodborne Pathogen standard
Target Organs	Multiple organs

Written Opinion	Standard Written Medical Opinion required including: a. Statement that the employee has sufficient strength, endurance, and emotional stability to perform the work b. Opinion that no medical condition was detected which would place the employee at increased risk of material impairment of the employee's health or would be a hazard to self or others from hazardous waste operations, emergency response, or respirator use c. Any limitations in job functions or ability to wear PPE d. The results of the medical examination and tests were also provided if requested by the employee
Medical Removal	No requirement in standard
Note regarding eligibility	Protocol covers the following employees: a. Potentially exposed to hazardous substances, without regard to the use of respirator, for more than 30 days per year b. Required to use a respirator more than 30 days per year c. Injured from exposure of hazardous substances during an emergency incident d. Members of a HazMat team Employees Not Covered in Standard: a. Emergency responders not designated members of HazMat team (e.g., security, firefighters)

D. Healthcare Provider	
Reference	OSHA 20 CFR 1910.1030
Frequency	1. Baseline Examination 2. Variable or Exposure-Determined Examination
Laboratory	1. Hepatitis B Vaccine (required or declination letter shall be completed) or demonstrated immunity 2. PPD required for baseline, periodic testing is discretionary based on risk assessment for the facility 3. Discretionary: a. Hepatitis Profile b. Measles, Mumps, Rubella Vaccine c. Diphtheria, Tetanus, and Pertussis (Td, Tdap) d. Varicella Vaccine (if no history of chicken pox)

	e. Influenza Vaccine offered annually
Physical Exam	1. Medical and Occupational History 2. Focused Physical Examination (discretionary) 3. Employee also covered by Bloodborne Pathogen Standard
Target Organs	Respiratory, blood, liver, skin

E. Ionizing Radiation	
Reference	
Frequency	Variable or Exposure-Determined Examination
Laboratory	Complete Blood Count (CBC) with Differential
Physical Exam	1. Medical and Occupational History including exposure 2. Focused Physical Examination
Target Organs	Exposure determined

F. Lasers	
Reference	ANSI Z 136.1 (2007), Required for Class 3B and Class 4 Lasers
Frequency	1. Baseline Examination (required) 2. Variable or Exposure-Determined Examination (within 48 hours)
Laboratory	1. Visual Acuity with refraction corrections to 20/20 (6/6) far and near vision (more extensive examination indicated if this is not met - see standard) 2. Amsler Grid (or similar pattern to test macular function for vision distortions and scotomas) 3. Color Vision Discrimination (Ishihara or similar color vision test) 4. Ocular fundus Examination with Ophthalmoscope or appropriate Fundus Lens at a Slit Lamp if visual acuity, macular function, or color vision is abnormal.
Physical Exam	1. Medical, Occupational, and Ocular History 2. Focused Physical Examination performed by or under supervision of ophthalmologist, optometrist, or other qualified physician 3. Limited skin examination
Target Organs	Eye, skin
Written Opinion	No requirement in standard

Medical Removal	No requirement in standard

G. Noise	
Reference	OSHA 29 CFR 1910.95, NPR 1800.1B Chapter 4.9
Frequency	1. Baseline Examination 2. Annual Examination 3. Exit/Reassignment Examination
Laboratory	1. Baseline Audiogram or within 30 days 2. Audiogram Annually 3. Retest (audiogram) within 30 days if there is a STS
Physical Exam	1. Medical and Occupational History 2. Focused Physical Examination with focus on external and tympanic membrane
Target Organs	Ears and hearing system
Written Opinions	Required within 21 days of Standard Threshold Shift (STS) determination including statement that STS has occurred, whether further evaluation and testing indicated, and opinion on work relatedness or aggravation by occupational noise exposure, and limitation in use of protective hearing equipment
Medical Removal	No requirement in standard

H. Pesticide Applicator	
Reference	
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination 4. Exit/Reassignment Examination
Laboratory	1. Baseline (required before occupational exposure) Plasma and RBC cholinesterase baselines should be established by performing each test twice (3 to 7 days between tests) and averaging the result for the baseline for each. 2. Blood Chemistry 3. Urinalysis (dipstick) 4. Discretionary Tests: a. Pulmonary Function b. RBC cholinesterase levels for recent exposure c. Plasma cholinesterase for acute exposure

Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on the skin and nervous system 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Target Organs	Kidney, liver, CNS, skin, lung
Medical Removal	If plasma or RBC cholinesterase activity is decreased by 30 percent or greater from baseline the employee should be removed from exposure until follow-up test levels are at least 80 percent of baseline.

I. Spray Painting	
Reference	
Frequency	1. Baseline Examination 2. Variable or Exposure-Determined Examination
Laboratory	Discretionary Tests: a. Blood Chemistry Profile b. CBC c. Chest X-ray d. Urinalysis e. Pulmonary Function Test
Physical Exam	1. Medical and Occupational History 2. Physical Examination (discretionary) 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use 4. Evaluation of other potential exposures, e.g. lead

J. Water and Sewage	
Reference	
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination
Laboratory	1. Immunizations offered: a. Tetanus Diphtheria (Td) Vaccine b. Hepatitis A and B Vaccine 2. Discretionary Tests: a. Blood Chemistry Profile b. Complete Blood Count (CBC) c. Chest X-ray

Physical Exam	1. Medical and Occupational History 2. Physical Examination (discretionary)
Target Organs	Liver, gastrointestinal, blood

K. Welding	
Reference	NIOSH Criteria Document No. 88-110
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination
Laboratory	1. Pulmonary Function (Base only) 2. Blood Chemistry Profile 3. Complete Blood Count (CBC) 4. Urinalysis 5. Visual Acuity, Depth Perception, and Color Discrimination 6. Chest X-ray (Baseline) 7. Discretionary a. Skin Cancer Screening
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on skin, respiratory, macular, cornea, fundus, and any condition that may interfere with ability to perform duties 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination Occupational Respirator Use 4. Evaluation of other potential exposures, e.g. metals, flux, compounds
Target Organs	Respiratory, eyes, varies with exposure type

3. Certification Examinations

A. Childcare Workers	
Reference	
Frequency	1. Baseline Examination 2. Variable or Exposure-Determined Examination

Laboratory	1. PPD every 2 years 2. Discretionary Vaccines offered: a. Influenza b. Measles, Mumps, and Rubella (MMR) c. Tetanus/Diphtheria (Td) d. Polio e. Hepatitis A f. Chickenpox g. Hepatitis B
Physical Exam	1. Medical and Occupational/Immunization History 2. Physical Exam with focus on ability to lift and bend repetitively
Written Opinion	Job Certification with any limitations.

B. Permit-Entry Confined Space/Tank Entry	
Reference	29 CFR 1910.134
Frequency	1. Variable or Exposure-Determined Examination
Laboratory	1. Audiogram 2. Visual Acuity, Depth Perception, and Color Vision (or demonstration of employee's ability to see and hear warnings, such as flashing lights, buzzers, and sirens) 3. Discretionary Tests: a. ECG b. Chest X-ray (Baseline) c. Urinalysis (dipstick) d. Pulmonary Function
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on employee's ability to carry out assigned duties and detection of any disease or abnormality that would make it difficult to work within confined spaces 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use 4. Evaluation of other exposures may be required
Written Opinion	Job Certification with any limitations

C. Crane Operators/Riggers Note: Includes ground floor, remote operation, high, cabin, ulpit	
Reference	
Frequency	1. Baseline Examination 2. Biennial
Laboratory	1. Audiogram: No hearing loss in better ear greater than 40 dB at 500, 1,000, 2,000, 3,000, and 4,000 Hz with or without a hearing aid 2. Visual Acuity: Minimum of 20/40 Snellen in each eye without correction or separately corrected to 20/40 Snellen in both eyes with or without corrective lenses 3. Depth Perception 4. Field of vision at least 70 degrees in the horizontal median in each eye 5. Color Vision 6. Discretionary Tests: a. ECG b. Urinalysis c. Pulmonary function d. Hemoglobin (Hgb) and Hematocrit (Hct) 7. Contact the Drug-Free Workplace (DFW) coordinator to arrange testing
Physical Exam	Complete examination: 1. History to ascertain any condition that may cause any sudden incapacitation or inability to perform duties 2. Evaluation for reaction time, manual dexterity, and coordination 3. No tendencies to seizures, dizziness, laustrophobia, sudden incapacitation, loss of physical control, or similar undesirable conditions such as insulin controlled diabetes 4. No evidence of physical defects, or emotional instability, that in the opinion of the examiner, would present a hazard to self or others
Written Opinion	Job Certification with any limitations or referral for further testing

D. Diver	
Reference	29 CFR 1910.401-441, Subpart T
Frequency	1. Baseline Examination 2. Annual Exam

Laboratory	1. Audiogram 2. Baseline and Annual ECG 3. Baseline Chest X-ray (PA and lateral) 4. Pulmonary Function (Vital Capacity) 5. Urinalysis (dipstick) 6. Blood Chemistry 7. Complete Blood Count (CBC) 8. PPD 9. Visual Acuity and Color Discrimination 10. Discretionary Tests: a. Exercise Stress Test
Physical Exam	1. Medical and Occupational History to include predisposition to unconsciousness, vomiting, cardiac arrest, impairment of oxygen transport, serious blood loss, or anything that interferes with effective underwater work 2. Physical Examination
Written Opinion	Job Certification with any limitations, or recommend further specialized clinical evaluation or testing

E. DOT/Commercial Driver License/ Motor Vehicle Certification/Multiple Passenger Van	
Reference	49 CFR 391.41-49
Frequency	1. Baseline Examination 2. Biennial Exam unless more frequent examination is required by the examining provider (per DOT regulations)
Laboratory	1. Audiogram: Hearing thresholds in better ear $\leq$ 40 dB at 500, 1,000, 2,000 Hz with or without hearing aid 2. Visual Acuity: At least 20/40 (Snellen) in each eye without corrective lenses or visual acuity separately corrected to 20/40 or better with corrective lenses, distant binocular acuity of at least 20/40 in both eyes with or without corrective lenses 3. Depth perception 4. Gross field of vision: 70 degrees in each eye 5. Traffic signal color perception 6. Urinalysis (dipstick) 7. Discretionary Tests: 1. Chest X-ray 2. Complete Blood Count (CBC)

	3. Blood Chemistry Profile 4. ECG 5. Exercise Stress Test 6. Pulmonary Function
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on any condition that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, dizziness, claustrophobia, loss of physical control, or similar undesirable conditions (Cannot qualify if diabetic on insulin or if currently on medication for seizure disorder/epilepsy)
Written Opinion	Job Certification with any limitations, or referral for additional specialized clinical evaluation or testing

F. Down Range/Shipboard Duty	
Reference	46 CFR Subpart 10.205; 12.02-27; 12.25
Frequency	1. Baseline Examination (temporary assignment to ships, submarines, or NASA Test Range shipboard) 2. Annual Examination (for Masters, Chief Mates, Chief Engineers, 1st Assistant Engineer, Food Handlers, or anyone 60 years and up, or temporary assignments) 3. Variable (if none of the above): a. Every 5 years for 17 to 24 years of age b. Every 3 years for 25-49 years of age c. Every 2 years for 50 to 59 years of age
Laboratory	1. Audiogram 2. Visual Acuity: 20/200 correctable to 20/40 (Snellen) for deck responsibility; correctable to 20/50 for engineering responsibility 3. PPD 4. Gross Visual Fields: If otherwise qualified, may have lost vision in one eye if remaining good eye's vision is passing 5. Color Perception (Pseudoisochromatic Plates or Eldridge--Green Color Perception Lantern) 6. Discretionary Tests: a. Chest X-ray b. ECG c. Travel Immunizations (offered)

Physical Exam	1. Medical and Occupational History 2. Physical Examination 3. Shipboard food handlers must abide by the Food Handler protocol
Written Opinion	Job Certification with limitations

G. Fire Fighter	
Reference	National Fire Protection Association (NFPA) 1582
Frequency	1. Baseline Examination 2. Annual Examination, if 40 or older 3. Biennial Examination, if between ages 30-39 4. Triennial Examination, if 29 or younger
Laboratory	1. Audiogram: Requires less than 40 dB average hearing loss at 500, 1000, 2000, and 3000 Hz in the "Better ear." 2. Full Blood Chemistry (including cholesterol, HDL, LDL, triglycerides, lipid ratios) 3. CBC 4. Chest X-Ray: a. Baseline b. Every 5 years 5. ECG 6. Pulmonary Function: Ratio of FEV1/FVC must be greater than 0.75 if both FEV1 and FVC are below normal 7. Urinalysis (dipstick) 8. Visual Acuity: Far (Snellen) at least 20/40 binocular corrected and at least 20/100 binocular uncorrected for those routinely using corrective lenses. 9. Color Perception 10. Stress test (age determined): Graded Exercise Test (GXT) with diagnostic symptom limit (95% PAAMHR) "if clinically indicated by history or symptoms" offered annually after 50 years of age 11. Discretionary Tests: a. PPD screen b. Hepatitis C ab titer c. Immunizations offered: • Hepatitis B Vaccine • Tetanus/diphtheria (Td) Vaccine • MMR Vaccine • Polio Vaccine • Varicella Vaccine

	• Influenza Vaccine d. HIV screen e. Depth perception f. Gross visual fields
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on any condition that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, dizziness, claustrophobia, loss of physical control, or similar undesirable conditions 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Written Opinion	Job Certification with: a. Statement that the employee has sufficient strength, endurance, and emotional stability to perform the work b. An opinion the employee would not be a hazard to self or others c. Any limitations in job functions or ability to wear PPE

H. Food Handler	
Reference	21 CFR 10.115; 29 CFR 1910.141(h)
Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	1. PPD 2. Hepatitis A (offered) 3. Discretionary Tests: a. CBC b. Chest X-Ray
Physical Exam	1. Medical and Occupational History focusing upon transmittable infectious diseases 2. Focused Physical Examination 3. Examiner should provide counseling regarding hygiene and prevention of cross contamination/fecal-oral diseases
Written Opinion	Job Certification with statement that employee is medically cleared as indicated in the Food Safety section of this document.

Note:	For Crew Food Handler, refer to Primary Crew Contact Physical

I. Locomotive Engineer	
Reference	49 CFR 240.121 and Appendix F
Frequency	1. Baseline Examination 2. Triennial Examination
Laboratory	1. Audiogram: Hearing loss in better ear ≤ 40 dB at 500, 1,000, 2,000 Hz with or without hearing aid 2. Visual Acuity: 20/40 with or without corrective lenses 3. Visual Fields: at least 70 degrees in each eye 4. Color: Recognize and distinguish between the colors of railroad signals
Physical Exam	1. Medical and Occupational History 2. Focused Physical Examination with focus on assessing any condition affecting vision and/or hearing that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, loss of physical control, or similar undesirable conditions
Written Opinion	Job Certification with any limitations

J. Motive (Heavy) Equipment Operator **Note:** includes specialized maintenance and construction equipment such as bulldozers, dump trucks, etc.	
Reference	
Frequency	1. Pre-placement/Baseline Examination 2. Biennial Exam
Laboratory	1. Audiogram: Hearing threshold in better ear ≤ 40 dB (500, 1000, 2000 Hz) 2. ECG 3. Pulmonary Function 4. Visual Acuity: 20/40 with or without corrective lenses 5. Gross Visual Fields: 70 degrees in each eye 6. Color: Recognize and distinguish between the colors 7. Urinalysis (dipstick) 8. Discretionary Tests: a. Chest X-Ray b. Blood Chemistry Profile c. Complete Blood Count (CBC)

	d. Stress Test (age determined)
Physical Exam	1. Occupational and Medical History 2. Physical Examination with focus on assessing any condition affecting vision and/or hearing that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, loss of physical control, or similar undesirable conditions
Written Opinion	Job Certification with any limitations

K. Occupational Respirator Use	
Reference	OHSA 29 CFR 1910.134, and 29 CFR 1910.134 Appendices A, B1, B2 , C
Frequency	1. Baseline Examination 2. Baseline and annual respirator questionnaire 3. Variable or Exposure-Determined Examination
Laboratory	1. Discretionary
Physical Exam	1. OSHA Respirator Medical Evaluation Questionnaire (Mandatory: 1910.134 Appendix A) annually 2. Focused Physical Examination with a focus on employee's ability to use a respirator for baseline 3. Annual Focused Physical Examinations required only if positive responses to Questions 1-8, Section 2, Part A of Appendix C, or at the discretion of the physician 4. Discretionary Tests: a. Chest X-ray b. Pulmonary Function (spirometry)
Written Opinion	Required Standard Written Medical Opinion including: 1. Statement employee is medically able to use the respirator, or any limitations on respirator use related to a medical condition or related to workplace conditions in which respirator will be used 2. The need for any medical followup 3. A statement that employee has been given a copy of the written opinion 4. If the respirator is a negative pressure respirator and the PLHCP finds a medical condition that may place the employee's health at increased risk if the respirator is used, the employer shall provide a PAPR if the medical evaluation finds that the employee can use such a respirator; if a subsequent medical evaluation finds that the employee is medically able to use a negative pressure respirator, then the employer is no longer required to provide a PAPR

L. Ordnance Handler	
Reference	
Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	1. Audiogram 2. Visual Acuity 3. Depth Perception 4. Color Perception (as related to specific job requirements) 5. Urinalysis (dipstick) 6. Discretionary Tests: a. ECG b. Complete Blood Count (CBC) c. Blood Chemistry Profile d. Chest X-ray e. Pulmonary Function
Physical Exam	1. Medical and Occupational History to ascertain any condition that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, dizziness, claustrophobia, loss of physical control, or similar undesirable conditions 2. Physical Examination focusing on strength, endurance, agility, coordination, adequate visual acuity and hearing, and emotional stability
Written Opinion	Job Certification with any limitations

M. Primary Animal Contact Note: May have to be modified to cover the animal species and specific agents being used.	
Reference	
Frequency	1. Baseline Examination 2. Annual Examination 3. Variable or Exposure-Determined Examination
Laboratory	Baseline only: 1. Complete Blood Count (CBC) 2. Blood Chemistry Profile 3. Pulmonary Function 4. PPD 5. Tetanus every 10 years 6. Discretionary:

	a. Serum Sample (10 mL) for storage b. Rabies Titer c. Rubeola Titer d. Hepatitis A and B e. Offer Rabies Vaccine
Physical Exam	1. Medical and Occupational History (annual interim history) 2. Physical Examination with focus on immunization history, conditions with suppression of the immune system, allergies to animals, and prior illnesses from animal 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use
Written Opinion	Job Certification with any limitations

N. Primary Crew Contact	
Reference	Flight Crew Health Stabilization Program JSC 22538
Frequency	1. Mission specific: No earlier than L-21 every scheduled Space Shuttle launch 2. Permanent Primary Contacts: Annual 3. Food Depot: Every 6 months
Laboratory	Required for Food Depot only: a. CBC b. Urinalysis c. Blood Chemistry Panel and Cholesterol Panel d. TB screening (annual) e. Hepatitis A and Influenza Vaccine (offered) Discretionary Tests for all others: a. WBC count with differential b. Urinalysis c. Other serological or bacteriological testing d. TB screening
Physical Exam	Focused Physical Examination with focus on detection of infectious disease
Written Opinion	Certification status (JSC Form 270, KSC Form 13-116)

O. Security	
Reference	

Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	1. Audiogram 2. Visual Acuity, Color Vision, Visual Field 3. ECG 4. Urinalysis (dipstick) 5. PPD 6. Discretionary Tests: a. Pulmonary Function b. Exercise Stress Test
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on ability to perform the essential functions of the job and maintain emotional stability
Written Opinion	Required: 1. Certification statement that the employee has emotional stability to perform the work 2. In the opinion of the examiner that no medical condition was detected which would place the employee at increased risk of material impairment of the employee's health or would be a hazard to self or others 3. Any limitations in job functions

P. Self Contained Atmospheric Protective Ensemble (SCAPE)	
Reference	29 CFR 1910.134
Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	1. Blood Chemistry Profile 2. Complete Blood count (CBC) 3. Baseline Chest X-ray 4. Pulmonary Function 5. Audiogram: Hearing threshold less than 40 dB average hearing loss at 500, 1000, 2000, and 3000 Hz in the "Better Ear" 6. Visual Acuity: a. Far (Snellen) at least 20/70 in one eye and 20/100 in the other eye corrected to 20/20 in one eye and 20/40 in the other eye b. Near vision correctable to 20/40 (Snellen equivalent) bilaterally 7. Color perception 8. Depth perception

	9. Gross visual fields intact 10. Discretionary Tests: a. Annual Chest X-ray b. Urinalysis with microscopic c. ECG
Physical Exam	1. OSHA Respirator Medical Evaluation Questionnaire (Mandatory: 29 CFR 1910.134, Appendix A) 2. Physical Examination with focus on employee's ability to use a respirator under the conditions of use (i.e., temperature extremes) 3. Have sufficient strength, endurance, agility, coordination, and emotional stability to avoid interference with performance
Written Opinion	Required: a. Statement that the employee is medically able to use the Self Contained Atmospheric Protective Ensemble (SCAPE), or any limitations on SCAPE use related to a medical condition or related to workplace conditions in which the SCAPE will be used b. Any need for medical followup c. Statement that employer/employee has been given a copy of the written opinion

Q. Soldering	
Reference	NASA STD 8739.3, Soldered Electrical Connections
Frequency	1. Baseline Examination 2. Annual 3. Variable or Exposure-Determined
Laboratory	1. Pulmonary Function (Baseline only) 2. Visual Acuity, Depth Perception, and Color Discrimination
Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on skin and respiratory tract. 3. Evaluation of ability to wear respirator may be required, see protocol Section 3 K, Certification Examination. Occupational Respirator Use 4. Evaluation of other potential exposures, e.g. lead
Target Organs	Respiratory, skin, varies with type of solder used

R. Voluntary Respirator Use **Note: For employees requesting elastomeric respirator**

Reference	OHSA 29 CFR 1910.134 Appendix A ,B1, B2, C, D
Frequency	1. Baseline Examination
Physical Exam	1. Focused physical evaluation 2. History to ascertain any condition that may cause any sudden incapacitation, inability to perform duties. 3. Evaluation of ability to wear respirator under expected use conditions (i.e., temperature extremes). 4. OSHA Respirator Medical Evaluation Questionnaire (Mandatory: 1910.134 Appendix A)
Written Opinion	Required: a. Any limitations in job functions or ability to wear PPE

4. Flight Activities

A. First Class Airman's Medical Certificate (Airline Transport Pilot)	
Reference	14 CFR 67, NPR 7900.3 Aircraft Operations Management w/Interim Revision to Chapter 3, Appendix A, Aviation Medical Program Certification For NASA Pilots
Frequency	1. Baseline Examination (high performance aircraft requires a NASA medical evaluation in addition to the FAA certificate, see NPR 7900.3, Appendix A) 2. Every 6 months
Laboratory	1. Audiogram (see standard for other acceptable means of testing hearing) with results no worse than:

	500 Hz	1000 Hz	2000 Hz	3000 Hz
Better ear (dB)	35	30	30	40
Poorer ear (dB)	35	50	50	60

2. Visual Acuity:

a. Distant: 20/20 in each eye with or without correction
b. Near: 20/40, Snellen equivalent at 16 inches, or better in each eye with or without correction
c. Near at age 50 or older: 20/40, Snellen equivalent at 16 and 32 inches, or better in each eye with or without correction
d. Intermediate: 20/40 or better in each eye with or without correction at age 50 and over

	3. Visual Fields: Normal 4. Color Perception 5. ECG (transmitted to FAA): First examination after 35 years of age and annually after 40 years of age 6. Discretionary Tests: a. Blood Chemistry Profile (can include fasting blood sugar and blood lipid profile). b. Complete Blood Count (CBC) c. Chest X-ray d. Pulmonary Function e. Urinalysis (dipstick) f. Exercise Stress Test
Physical Exam	1. FAA Medical History Form 8500-8 2. Physical Examination by FAA certified physician with focus on any condition that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, dizziness, claustrophobia, loss of physical control, or similar undesirable conditions 3. Average BP should not exceed 155mm/95mm 4. Check references above for acceptable standards, equipment, and requirements
Written Opinion	a. Certification with any limitations, or referral to Aerospace Medical Certification Division, or Regional Flight Surgeon for possible further specialized clinical evaluation or testing. b. For waivers refer to NPR 7900.3 Appendix A c. Examinations conducted by non-NASA Aircrew Medical Examiners (AME) will require a records review by a NASA Occupational Health Clinic physician prior to recommendation to the Center Director. d. See 14 CFR 67 for Pilot Medical Standards

B. Second Class Airman's Medical Certificate (Commercial Pilot, Flight Engineer, Flight Navigator, and Air Traffic Control Tower Operator)	
Reference	14 CFR 67 Appendix A
Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	1. Audiogram See FAA I 2. Visual Testing and Requirements: See FAA I 3. ECG (transmitted to FAA): First examination after 35 years of age, and annually after 40 years of age 4. Discretionary Tests: a. Blood Chemistry Profile (can include fasting

	blood sugar and blood lipid profile) b. Complete Blood Count (CBC) c. Chest X-ray d. Pulmonary Function e. Urinalysis (dipstick) f. Exercise Stress Test
Physical Exam	1. Medical and Occupational History 2. Physical Examination by FAA certified physician with focus on any condition that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, dizziness, claustrophobia, loss of physical control, or similar undesirable conditions 3. Average BP should not exceed 155mm/95mm 4. Check references above for acceptable standards, equipment, and requirements.
Written Opinion	a. Certification with any limitations, or referral to Aerospace Medical Certification Division, or Regional Flight Surgeon for possible further specialized clinical evaluation or testing. b. See 14 CFR 67 for Pilot Medical Standards

C. Third Class Airman's Medical Certificate (Private Pilot, Recreational Pilot, Student Pilot)	
Reference	14 CFR 67 Appendix A
Frequency	1. Baseline Examination 2. Every 2 years, if 40 years of age or older 3. Every 3 years, if under 40 years of age
Laboratory	1. Audiogram: See FAA I 2. Visual Acuity: a. Distant: 20/40 or better in each eye with or without correction b. Near: 20/40, Snellen equivalent, or better in each eye at 16 inches with or without corrective lens c. Intermediate: No requirement 3. Visual Fields and Color: see FAA I 4. Discretionary Tests: a. Blood Chemistry Profile (can include Fasting Blood Sugar and Blood Lipid Profile). b. CBC c. Chest X-Ray d. Pulmonary Function e. Urinalysis (dipstick) f. ECG

	g. Exercise Stress Test
Physical Exam	1. Medical and Occupational History 2. Physical Examination by FAA certified physician with focus on any condition that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, dizziness, claustrophobia, loss of physical control, or similar undesirable conditions 3. Average BP should not exceed 155mm/95mm 4. Check references above for acceptable standards, equipment, and requirements
Written Opinion	1. Certification with any limitations, or referral to Aerospace Medical Certification Division or Regional Flight Surgeon for possible further specialized clinical evaluation or testing 2. See 14 CFR 67 for Pilot Medical Standards

D. Air Traffic Control Specialist or Flight Crew (Not requiring FAA Certification)	
Reference	Office of Personnel Management (OPM) GS-2152
Frequency	1. Baseline Examination 2. Annual Examination
Laboratory	1. Audiogram or demonstrate ability to hear normal conversation in a quiet room, using both ears, at a distance of 6 feet with the examiner's back turned 2. Visual Acuity: a. Distant 20/20 in at least one eye with or without correction b. Near vision 20/20, Snellen equivalent, with or without correction 3. Visual Fields: Normal 4. Color Vision 5. Tonometry 6. ECG 7. Exercise Stress Test 8. Chest X-ray 9. Discretionary Tests: a. Blood Chemistry (can include fasting blood sugar and blood lipid profile). b. Complete Blood Count (CBC) c. Chest X-ray d. Pulmonary Functions e. Urinalysis (dipstick)

Physical Exam	1. Medical and Occupational History 2. Physical Examination (see OPM qualifications on age based blood pressure values) with focus on cardiovascular, neurological, musculoskeletal, general medical, psychiatric, and substance dependency
Written Opinion	Certification with any limitations

E. Qualified Non-Crew Member	
Reference	
Frequency	1. Baseline Examination 2. Biennial Examination

Laboratory	1. Audiogram
	2. Visual Acuity
	3. Gross Visual Fields
	4. Discretionary Tests:
	  1. Color Perception
	  2. Blood Chemistry Profile as in C above
	  3. Complete Blood Count (CBC)
	  4. Chest X-Ray
	  5. ECG
	  6. Pulmonary Function
	  7. Urinalysis (dipstick)
	  8. Exercise Stress Test

Physical Exam	1. Medical and Occupational History 2. Physical Examination with focus on assessing any condition that may cause any sudden incapacitation or inability to perform duties, tendencies to seizures, dizziness, claustrophobia, loss of physical control, or similar undesirable conditions and emotional stability to avoid interference with performance, or in the opinion of the examiner could render a hazard to self or others
Written Opinion	Certification: Opinion that the employee has no physical limitation or medical condition which would prevent employee from performing their ordinary duties or be a hazard to self or others

5. Special Administrative Examinations

A. Fitness For Duty (FFD)

Defined	Fitness for Duty (FFD) examinations are performed at the request of management when a change in work performance, productivity, or health is observed or suspected. NPR 1800.1B
Frequency	Variable upon an unexpected change in behavior or performance. The examination should be completed as soon as possible after a written request through management has been made
Scope	The physician should evaluate whether there is a medical or psychological condition impacting work performance. A job description with the physical requirements and essential job functions is an integral part of this evaluation. Cooperation and coordination with the treating physician(s), as well as other services such as the Employee Assistance Program (EAP) can be of help to an affected employee
Managers Responsibilities	The supervisor/manager requesting the FFD examination should notify the employee and have their consent, provide documentation to the physician and a copy of the employee's job description. Managers must also decide if there is a "For Cause" need for drug testing based upon performance. Since this testing is not a medical test, the manager must contact the Drug Free Workplace (DFW) coordinator to arrange testing
Laboratory	Discretionary
Confidentiality	Confidentiality is of utmost importance and all recommendations and reports must be limited to work-related matters, e.g., work limitation, modifications, or accommodations. No non-work related medical diagnosis should be released in the written opinion
Written Opinion	Required return to duty status for the employee's manager, including recommendations for work limitations or accommodations

B. Return to Work (RTW)	
Defined	RTW evaluations are usually performed when employees are returning to work after an illness or injury of greater than 3 business days
Frequency	Variable or Exposure-Determined Examination

Scope	1. Vital signs 2. The evaluation should focus on the employee's ability to perform the essential job functions with or without work limitations, modifications, or accommodations. The information from the employee's physician is reviewed, and a decision is made whether a focused physical and/or tests are necessary
Managers Responsibilities	The manager requesting the RTW examination must provide a copy of the employee's job description that includes the functional and physical requirements
Laboratory	Focused laboratory based upon the prior condition/problem of the employee
Confidentiality	Confidentiality is of utmost importance and all recommendations and reports must be limited to work-related matters, e.g., work limitation, modifications, or accommodations
Written Opinion	A RTW certificate for the employee's manager should indicate: a. A statement of work limitations (including modifications and duration) b. A statement of any Personal Protective Equipment (PPE) needed or limitations in use of PPE c. For an occupational related issue, safety, and health should receive a copy of the RTW statement

C. International Traveler	
Reference	
Frequency	1. Variable or Exposure-Determined Examination 2. Note: Medical clearance required for NASA civil service employees traveling outside the United States or its possessions, with special emphasis for those traveling to Russia or the former nations under the Soviet Union, TAL site, or any developing or medically under-served country
Laboratory	Immunizations offered based on recommended WHO and CDC country requirements
Physical Evaluation	1. Medical Record Review 2. Medical and Occupational History 3. Physical Examination (discretionary) 4. Offer HRA 5. Provide education based on health risk assessment with

	emphasis on food and water precautions and other specific issues related to travel destination
Written Opinion (Clearance)	International Travel Worksheet, NASA Form 1711

6. Voluntary Health Maintenance

A. Complete Health Maintenance Examination	
Reference	
Frequency	1. Offer every 3 years to civil servants 2. Offer at retirement to civil servants
Laboratory	1. Vital signs (weight, blood pressure, pulse rate, rhythm) 2. Offer total body skin examination 3. Skin fold or BMI 4. Baseline and when medically indicated: a. Visual Acuity b. Audiogram c. Pulmonary Function d. Exercise Stress Test 5. ECG 6. Mammograms every 1-2 years age 40 to 49, annually for age 50 to 70 7. Colonoscopy every 10 years after age 50, earlier with family history (refer to private MD) 8. Tonometry (if available) 9. Menopause counseling for females age 45 and older 10. Breast self-examination education 11. Breast examination 12. PAP smear annually (every 3 years if negative consecutively x 3) 13. PSA test for men age 50 and older 14. Digital Rectal and Testicular examination offered to men age 40 and older 15. Complete Blood Chemistry (CBC) 16. Blood Chemistry Profile 17. Urinalysis 18. Hemocult
Physical Exam	1. Medical and Family History, if history of smoking?offer smoking cessation 2. Complete Physical Examination 3. Offer Health Risk Assessment (HRA)

Target Organs	Multiple Organs
Written Opinion	A summary of examination and laboratory results sent to the employee

B. Annual Health Maintenance Examination	
Reference	
Frequency	Offer annually to civil servants
Laboratory	1. Vital signs (weight, blood pressure, pulse rate, rhythm) 2. Mammograms every 1-2 years age 40 to 49, annually for age 50 to 70 3. PAP smear annually (every 3 years if negative consecutively x 3) 4. PSA men age 50 and older 5. Digital Rectal and Testicular Examination offered to men age 40 and older 6. Complete Blood Count (CBC) 7. Blood Chemistry Profile 8. Urinalysis 9. Hemocult
Physical Exam	1. Medical and Family History, if history of smoking?offer smoking cessation 2. Focused Physical Examination 3. Offer Health Risk Assessment (HRA)
Target Organs	Multiple Organs
Written Opinion	A summary of examination and laboratory results sent to the employee

C. Fitness Center Clearance	
Reference	
Frequency	Every 3 years
Laboratory	Discretionary
Physical Exam	1. Review of Physical Activity Readiness Questionnaire (PARQ) 2. Vital signs (blood pressure, pulse) 3. Refer to NASA Occupational Medicine Clinic for clearance if PARQ responses are positive or vital signs are abnormal 4. Physical examination and appropriate testing required if referred by Occupational Medicine Clinic or

	employees healthcare provider. Documentation must be received from personal healthcare provider and reviewed by Medical Director. Medical Director responsible for final decision on fitness center clearance
Written Opinion (Clearance)	Medical clearance may specify any limitations in clearance duration (i.e., 1-year) or Fitness Center activity

Appendix D. Partial Listing of Hazardous and Potentially Substances and Articles

Articles:

- Ionizing radiation sources and devices
- Class 3b and 4 lasers and sources of hazardous non-laser optical radiation (i.e., devices which emit non-coherent radiation in the wavelength range from 180 nm to 1 mm)
- High intensity, ultraviolet, and infrared lights
- Radio frequency (RF) and microwave emitters that operate in the frequency range of 3 kHz and 300 GHz, including but not limited to: radar systems; telemetry, and communications systems; microwave diathermy units; radio frequency generators; and RF heat sealers
- Devices that produce hazardous noise
- Pyrotechnic devices and explosives
- Pressurized vessels

Substances:

- Any substance listed in 29 CFR 1910, Subpart H, Hazardous Materials, Parts 101 through 111
- Any substance defined as highly hazardous chemicals by 29 CFR 1910.119, OSHA Process Safety Management Regulation
- Any substance defined as hazardous in 29 CFR 1910, Subpart Z, Toxic and Hazardous Substances
- Any substance defined by the International Agency for Research on Cancer (IARC) Monographs on the Evaluation of Carcinogenic Risks to Humans, as Group 1, 2A, or 2B
- Any substance defined by the American Conference of Governmental Industrial Hygienists (ACGIH) as category A1, A2 or A3
- Any substance listed at a potential human carcinogen by NIOSH
- Any substance listed as a Department of Health and Human Services, National Toxicology Program Report on Carcinogens, Part A, Known to be Human Carcinogens, or Part B, Reasonably Anticipated to be Human Carcinogens
- Any substance known or suspected of being capable of posing a hazard to human reproduction, including reproductive and developmental toxins
- Any substance listed by DOT or EPA as a hazardous or extremely hazardous
- Nano and ultrafine particles
- Any infectious (Level 2 and higher biohazard) agents; any listed in 42 CFR 72, Interstate Shipments of Etiologic Agents; or any listed in 42 CFR 73, Select Biological Agents and Toxins
- Any EPA category I, II, or III toxic pesticides

YEAR I	YEAR 2	YEAR 3
JPL - January	MAF - January	ARC - January
JSC - March	MSFC - March	SSC - March
WSTF - May	HQ - May	GRC/PBS - May
WFF - June	KSC - August	LaRC - October
GSFC - October	DSFC - October	

Appendix F. References

a. 5 U.S.C. Section 7901 Health Services Programs.
b. NASA Privacy Act Regulations, 14 CFR Part 1212.
c. 29 CFR 1910.1020, Access to Employee Exposure and Medical Records.
d. OSHA Standards - 29 Part CFR 1910.1030, Bloodborne Pathogens.
e. 29 CFR Part 1960, "Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters."
f. NPD 1210.2, NASA Surveys, Audits, and Reviews Policy.
g. NPD 1800.2, NASA Occupational Health Program.
h. NPD 8710.2, NASA Safety and Health Program Policy.
i. NPR 1441.1, NASA Records Retention Schedules.
j. NPR 3792.1, Plan For A Drug-Free Workplace.
k. NASA Occupational Health Program Standardized Statements of Work. NASA Office of the Chief Health and Medical Officer, January 3, 2005.
l. Chief Health and Medical Officer's memo, "NASA Occupational Health Program Guidelines for Implementing a Center Automatic External Defibrillator Program," July 20, 2000.
m. NASA Physical Examination Matrix G (2007) (http://www.ohp.nasa.gov).
n. NASA Occupational Health Web site (http://www.ohp.nasa.gov).
o. Health Insurance Portability and Accountability Act (HIPPA) Act of 1996.
p. American College of Occupational and Environmental Medicine (ACOEM): Occupational Medicine Practice Guidelines, Edited by Jeffrey S. Harris, MD, MPH, MBA.
q. Public Health Service, Healthy People 2010: The Federal Government's prevention agenda and the national health objectives, http://www.healthypeople.gov/data/midcourse/default.htm#pubs.
r. NOTE: All other references can be found on the NASA Occupational Health Program Web site at http://www.ohp.nasa.gov.

NASA Procedural Requirements

NPR 1850.1
Effective Date: May 11, 2010
Expiration Date: May 11, 2015

COMPLIANCE IS MANDATORY

Quality Assurance of the NASA Medical Care

Responsible Office: Office of the Chief Health & Medical Officer

Table of Contents

Preface

P.1 Purpose
P.2 Applicability
P.3 Authority
P.4 Applicable Documents
P.5 Measurement/Verification
P.6 Cancellation

Chapter 1. Credentialing and Privileging of Licensed Independent Professionals and Licensed and Non-licensed Support Health-care Personnel

1.1 Introduction
1.2 Verification and Credentials
1.3 Privileging
1.4 Management of Impaired Providers
1.5 Responsibilities

Chapter 2. Medical Incident Investigation

2.1 Introduction
2.2 Responsibilities

Chapter 3. Confidentiality of Medical Quality Assurance Records

3.1 Introduction

3.2 Access to Quality Assurance Records and Documents Within the Agency
3.3 Non-NASA Disclosure of Quality Assurance Records and Documents
3.4 Responsibilities

Appendix A. Definitions
Appendix B. Acronyms
Appendix C. References
Appendix D. Medical Incident Investigation
Appendix E. Adverse Actions and Fair Hearing Procedures

Preface

P.1 Purpose

This NASA Procedural Requirements document (NPR) describes requirements for providing quality assurance in the Agency's medical care system that encompasses both aerospace medicine and occupational health clinical activities and practices. While general principles apply to both occupational health and aerospace medicine practice, the specific administrative processes for each may differ in order to meet the unique needs of the two specialties. This NPR provides the requirements for proper quality assurance in the implementation of both specialties.

P.2 Applicability

This NPR is applicable to NASA Headquarters, NASA Centers, and Component Facilities, as well as to the Jet Propulsion Laboratory and NASA contractors to the extent specified in their contracts.

P.3 Authority

a. 29 U.S.C. 668, Section 19 of the Occupational Safety and Health Act of 1970, as amended, Programs of Federal Agencies.

b. 5 U.S.C. 7901, Health Service Programs.

c. Executive Order 12196, dated February 26, 1980, Occupational Safety and Health Programs for Federal Employees, 3 CFR (1980 Compilation).

d. 29 CFR Part 1960, Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters.

e. NPR 1000.3, The NASA Organization.

f. NPD 1850, NASA Medical System Quality Assurance.

P.4 Applicable Documents

a. NPD 1440.6, NASA Records Management.

b. NPR 1441.1, NASA Records Retention Schedules.

c. NPD 1382.17, NASA Privacy Policy.

d. NPR 1382.1, NASA Privacy Procedural Requirements.

e. NITR 1382.2, NASA Rules and Consequences to Safeguarding PII.

P.5 Measurements/Verification

The Office of the Chief Health and Medical Officer (OCHMO) shall provide assessments/audits of the application of this directive. This will include annual reporting from the Centers of any adverse credentialing or privileging actions, or medical incidents.

P.6 Cancellation

None

/S/ Dr. Richard S. Williams
NASA Chief Health and Medical Officer

Chapter 1. Credentialing and Privileging of Licensed Independent Professionals and Licensed and Non-licensed Support Health-care Personnel

1.1 Introduction

1.1.1 The credentials verification and privileging of health-care staff are necessary for ensuring the competence of all medical practitioners and health-care support personnel permitted to practice medicine by law and organization, and for the safety of employees, patients, and study volunteers.

1.1.2 NASA credentialing and/or privileging criteria described in this NPR shall be required of all NASA civil servants, detailees to NASA, and NASA occupational health contractors who are licensed medical professionals or non-licensed health-care support personnel providing health care for NASA personnel, directed by NASA or under contract to NASA, receiving physician comparability allowance by NASA, or providing health care that is performed at a NASA facility or at an external site.

1.1.3 Health-care delivery is defined as the supervision, monitoring, or direct delivery of prevention, treatment, and management of illness and the preservation of mental and physical well-being through the supervision of, monitoring of, or the direct delivery of services offered by the medical, nursing, and allied health professionals. Health-care providers include licensed independent practitioners (e.g., medical, nursing, and allied health professionals who provide services without direction or supervision). Health-care support personnel include licensed personnel (e.g., nurses, pharmacists, dietitians, and other allied health professionals who provide services with direction or supervision) and non-licensed personnel (e.g., lab and x-ray technicians, emergency medical technicians (EMTs), dental assistants, strength and conditioning specialists, wellness counselors, and other personnel who provide services with direction or supervision).

1.1.4 These policy requirements establish uniform criteria for appointments to the clinical staff, maintenance of clinic privileges, and retention of knowledgeable, experienced, and competent health-care professionals.

1.2 Verification of Credentials

1.2.1 Initial verification and triennial verification of credentials, including primary source verification for all physician practitioners, shall be required of all NASA licensed health-care providers. The core credentialing criteria are:

a. Current state licensure that must be verified with the licensing entity;

b. Relevant education, training, and/or experience (primary source verification is required at the time of initial employment and triennially thereafter);

c. Review by the credentialing official of the National Practitioner Data Bank and other appropriate sources for previous adverse credentialing events. For a NASA non-contractor licensed health-care provider, if any adverse events are noted, the Center will forward the information to the Chief Health

and Medical Officer (CHMO) for determination of action;

d. Current competence; and

e. If not active duty military or U.S. civil servant, evidence substantiating the ability to perform requested privileges.

1.2.2 Initial verification and annual verification of credentials shall be required of all NASA licensed health-care support personnel, including licensed personnel in management roles, and encompasses requirements for licensure, training, and certification. The core credentialing criteria are:

a. Current state licensure that must be verified with the licensing entity;

b. Current Basic Life Support (BLS)/Automated External Defibrillator (AED) training;

c. Current Advanced Cardiac Life Support (ACLS) certification for nurses, EMT-Ps, and pharmacists;

d. Current competence for nurses and EMTs. Baseline competence will be established by the hiring employer during orientation, then competency assessment and training will be accomplished and documented annually; and

e. Current Bloodborne Pathogen training.

1.2.3 Credentialing verification for licensed health-care providers shall be required:

a. Prior to initial appointment and granting of initial clinical privileges;

b. When new privileges are requested; and

c. At triennial renewal of privileges for reappointment which is done in conjunction with that year's performance evaluation.

1.2.4 Some deviation from the core credentialing criteria may be warranted based on the degree of adaptation and customization found in the various health-care activities implemented at each NASA facility.

1.2.5. For the purpose of credentials verification of NASA health-care providers, NASA shall recognize three levels of medical care.

a. Direct patient/client care, counseling, or direct research monitoring shall require both credentials verification and privileging, including:

(1) Evidence of the following credentials - proof of professional education, evidence of specialty training, board certification, if applicable, and current licensure to practice in a U.S. State. If the practitioner is detailed to a NASA Center, licensure to practice in any U.S. State or Territory will be accepted;

(2) When appropriate and based on the individual's function, maintenance of certification in ACLS, Cardiopulmonary Resuscitation (CPR/BLS), and the use of AED and the specific defibrillator(s) in their care location; and

(3) The ability to meet other specific privileging or certification required by the assigned function (e.g., Medical Review Officer (MRO), sigmoidoscopy, stress testing).

b. Practitioners in a supervisory or research monitoring role in a non-direct patient care setting shall require credentials verification and in certain cases privileging, including:

(1) Evidence of the following credentials: proof of professional education, evidence of specialty training, board certification, if applicable, and current licensure to practice in a U.S. State or Territory;

(2) Maintenance of certification in ACLS or CPR/BLS and the use of AED and the specific defibrillator(s) in their care location;

(3) The ability to meet other specific privileging or certification required by the assigned function; and

(4) If functioning as an MRO for NASA, certification by a national certifying agency (e.g., American Association of Medical Review Officers or The Medical Review Officer Certification Council).

c. Physicians who are in management positions and are no longer actively practicing medicine (management positions without direct patient contact) do not require privileging or peer review activities but shall require evidence of the following credentials:

(1) Proof of professional education, evidence of specialty training, board certification, if applicable, and current licensure to practice in a U.S. State. If the practitioner is detailed to a NASA Center, licensure to practice in any U.S. State or Territory will be accepted.

(2) Maintenance of certification in ACLS or CPR/BLS the use of AED and specific defibrillator(s) in their care location.

d. The above stipulations shall not apply to personnel at non-NASA offsite facilities to which employees/patients may be referred.

1.2.6 Current competence for initial clinical privileges for health-care providers shall consist of signed letters of informed opinion from specialty certification boards, peers of personal acquaintance, medical supervisors, academic program directors, or by demonstrated competency documented through peer review activities and outcome monitors that are part of the established medical quality assurance processes and system.

a. A search for any history of medical malpractice and of criminal record shall be conducted, including a query of the National Practitioner's Data Bank and other appropriate sources.

1.2.7 All records containing credentialing information shall be maintained in accordance with 5 U.S.C. 552a; the Privacy Act of 1974, as amended; NPR 1382.1, NASA Privacy Procedural Requirements; and the NASA records retention schedules as specified in NPR 1441.1D.

1.2.8 In the case of civil service personnel, records of health-care providers and support personnel credentials (initial and routine verification) and a list of privileges shall be securely maintained by each Center credentialing office, the clinic in which the practitioner is privileged, or at the point of care.

1.2.9 In the case of onsite contractors, records of health-care providers' credentials verification and a list of privileges shall be maintained and updated by the contractor with copies of the credential files kept at the NASA clinic location.

a. Additionally, relevant licensures shall be provided by health-care providers initially and on license renewal.

1.3 Privileging

1.3.1 Privileging authorizes health-care providers to conduct those clinical tasks for which they must possess adequate skills in order to perform their responsibilities. For health-care support personnel, privileges are delineated by the scope of their licensure and the job description of the position for which they have been hired. Continuing education, relevant training, and skills utilization shall be used to help maintain competence, provide continuous improvement in efficiency, and ensure effectiveness of health care.

1.3.2 Privileges for health-care providers shall be delineated and granted in accordance with documented professional competence, scope of care, and facility support capability for not longer than three years without re-review.

a. For health-care support personnel, competence to continue to perform assigned job duties shall be assessed and documented annually.

1.3.3 Upon request, NASA may privilege incumbent practitioners, who do not meet explicit credentialing criteria, on the basis of their record of experience in a particular setting with demonstrated proficiency in the procedure for which privilege is requested (grandfathering). After licensure verification, each case will be considered individually and decided by the appropriate NASA medical authorities. For licensed independent practitioners, the decision shall be made by the Center Chief Medical Officer (CMO), and for those Centers without a CMO, by the NASA CHMO or designee.

1.3.4 Emergency credentialing and privileges may be transferred from one Center to another in times of emergency or disaster, such as emergent support for natural disasters (e.g., hurricane recovery). A transmittal letter from the NASA Center sending the credentialed providers will be sent to the Office of the Chief Health and Medical Officer (OCHMO) and the receiving institution. This transmittal letter will verify that the providers are licensed, credentialed, and privileged and will specify the estimated amount of time that the providers will be detailed to the receiving NASA Center. The scope and authority to practice will be commensurate with their originating institution.

1.3.5 NASA practitioners in the course of mission support may provide care that extends beyond their NASA Center or Federal property. NASA practitioners who provide patient care at locations of care other than their primary place of practice shall be held to the same standard in regards to credentialing, privileging, and quality of care. The credentialing and privileging will be maintained at their originating facility. For these circumstances, credentials and privileges shall be extended beyond their NASA Center for the purposes of mission and personnel support and include, but are not limited to:

a. Flight surgeons, athletic trainers, nurses, or lab technicians supporting in Star City, Russia;

b. Flight surgeons, athletic trainers, nurses, or lab technicians supporting launch or landing at another NASA Center;

c. Flight surgeons or nursing staff supporting search, rescue, or recovery of astronauts at a location other than a NASA Center;

d. Flight surgeons, athletic trainers, nurses, or lab technicians supporting in Moscow, Russia;

e. Flight surgeons, athletic trainers, nurses, or lab technicians supporting launch or landing of a United States asset on an international partner vehicle in a foreign country; and

f. Flight surgeons or nursing staff supporting aero-medical transport of a patient across international or interstate boundaries.

1.4 Management of Impaired Providers

a. Medical conditions that prevent or reduce a health-care provider's or support personnel's ability to safely execute his or her responsibilities in providing health care shall be considered impairment. Examples of impairment include but are not limited to alcohol or drug impairment, medical condition, severe personal or interpersonal stress or behavioral health disorder. Instances of impairment, or suspected impairment, can be reported by any patient or health-care provider to the appropriate supervisory medical personnel.

b. Health-care providers who may be impaired shall be reviewed by the appropriate supervisory medical personnel to determine if their health status hampers their ability to deliver safe patient care. If the review determines that the condition does affect clinical practice, the health-care provider's privileges may be temporarily held in abeyance, suspended or permanently revoked, and the health-care provider may be removed from all or a portion of their patient care responsibilities.

c. Health-care support personnel who may be impaired shall be reviewed by appropriate personnel from the employing company to determine if their health status hampers their ability to deliver safe patient care. If the review determines that the condition does affect clinical practice, the health-care support personnel's privileges may be temporarily held in abeyance, suspended or permanently revoked, and the health-care support personnel may be removed from all or a portion of their patient care responsibilities according to the employer's policy. Impaired providers in certain licensed disciplines (for example, nurses) must be reported to their licensing board for investigation and intervention.

d. A health-care provider or support personnel may voluntarily restrict their practice when a medical condition interferes with the ability to perform the full scope of duties. In the case of support personnel, concurrence of their supervisor is required.

e. For health-care providers, impairment status shall be reviewed regularly by appropriate medical supervisory personnel (schedule to be determined on a case-by-case basis) to determine when and if any restriction on medical privileges and the ability to perform patient care responsibilities should be suspended, revoked, or changed.

f. Impairment status of support personnel shall be reviewed by the employee's supervisor on a recurring basis to determine when and if any restriction on privileges and the ability to perform patient care responsibilities should be suspended, revoked, or changed.

1.5 Responsibilities

1.5.1 The Chief Health and Medical Officer (CHMO) shall be responsible for:

a. Establishing policy for the credentialing and privileging process for all NASA licensed health-care providers.

b. Ensuring that all NASA medical clinics and organizations appropriately implement the Agency credentialing and privileging process for all NASA licensed health-care providers.

c. Delegating authority to each NASA Center's Chief Medical Officer/Medical Director (where appropriate) to develop a specific credentialing plan and process that:

(1) Ensures an effective credentialing and privileging process for all NASA independent licensed health-care providers;

(2) Provides for granting of medical privileges consistent with these requirements at each NASA Center and facility with a process of triennial review; and

(3) Reviews impaired provider cases to determine when restrictions of clinic privileges should be imposed or rescinded.

d. Reviewing any reported cases of medical incidents or questions of standard of care.

1.5.2 Center Chief Medical Officers/Medical Directors (where appropriate), in collaboration with NASA Center Occupational Health Contracting Officer Technical Representative (COTR) or the appropriate official that serves as that COTR, and in the case of the Johnson Space Center, the Clinical Services Branch Chief, shall be responsible for:

a. Ensuring appropriate medical credentials reviews of all NASA civil service and detailee licensed medical professionals and NASA civil service and detailee non-licensed health-care support personnel and, assuring that the same criteria are stated for health-care providers in all statements of work for contracts procuring health care or human research services;

b. Providing the CHMO with a summary Center credentialing and privileging report on all NASA health-care providers annually;

c. Notifying in writing (e.g., letter and/or e-mail) the CHMO of cases of impaired providers and actions taken as they occur; and

d. Report to the CHMO in writing (e.g., letter and/or e-mail) any medical incidents or questions of medical standard of care.

1.5.3 No individual shall approve or review his/her own credentialing or privileging. The privileging authority for NASA Center CMOs is the CHMO. Privileging authority for contracted Medical Directors at NASA Centers is delegated to contract entities through the mechanism described in section 1.5.2.a.

Chapter 2. Medical Incident Investigation

2.1 Introduction

2.1.1 A Medical Incident is defined as a deviation from the standard of care occurring in the NASA health-care system, as perceived by the patient, another practitioner, or a reviewing quality monitoring body. In addition, any medical incident in which undue harm, illness, morbidity, or mortality or excessive financial burden to the patient or agency occurs as a result of the care provided or omitted shall be cause for review. Such Medical Incidents include, but are not limited to:

a. Missed diagnosis;

b. Incorrect diagnosis;

c. Therapeutic error;

d. Delay of diagnosis and/or treatment;

e. Admissions to a medical facility as a result of delayed diagnosis or treatment;

f. Complication of treatment;

g. Any incident with NASA medical system-wide implications;

h. Any incident in which legal recourse or claims for perceived malpractice or negligence has been brought by the patient or the patient's guardian; and

i. Any incident in which there has been a perceived moral or ethical breach of appropriate practitioner conduct.

2.1.2 Any such incident involving NASA medical care shall be immediately reported, with recommendation for disposition, to the Chief Health and Medical Officer (CHMO) by the Center Chief Medical Officer (CMO) or Medical Director (MD). If the incident involves a CMO or MD, it should be reported directly to the CHMO.

a. Similarly, any adverse trend in clinical performance shall be immediately reported to the CHMO.

b. The CHMO will determine if the reported incident or adverse trend in clinical performance shall be formally investigated to determine cause and possible remedial action.

2.1.3 Medical incident investigations shall be conducted by a provider, or a panel if appropriate, independent to the episode of care or incident, and according to the prescribed procedures established by the CHMO to ensure consistency of review across the Agency (Appendix D). For NASA institutions that act as the primary care providers to their patients, a Quality Assurance/Improvement Committee shall exist to review deviations and conformance to the standard of care, as well as conformance to credentialing and privileging documentation. This panel shall provide the CHMO with a summary of all completed investigations at least quarterly.

2.1.4 Results of a medical incident investigation shall be reported to the CHMO. The CHMO may convene the CMO for appropriate review. This group will be referred to as the Executive Medical Committee. If a CMO served on the original incident review committee, they will not serve on the Executive Medical Committee for that subsequent review.

2.2 Responsibilities

2.2.1 The CHMO shall be responsible for:

a. Determining when a medical incident investigation is warranted and assigning impartial investigating officials as required;

b. Monitoring all medical incident investigations to assure established processes and procedures are followed;

c. Convening the Executive Medical Committee to review the results of medical incident investigations for final response and determination of any necessary actions;

d. Ensuring any health-care provider under investigation is afforded a fair hearing according to the prescribed procedures established by the CHMO (see Appendix E);

e. Convening a Medical Review Board, as required, to review all cases of adverse privileging actions for privileged health-care providers as established in Appendix E;

f. Determining if any reporting of an adverse credentialing action should be reported to appropriate authorities, including the National Practitioner Data Bank. Only the CHMO will make the report if it is deemed appropriate; and

g. Maintaining all records associated with any medical incident investigation.

2.2.2 Center Chief Medical Officers/Medical Directors, in collaboration with NASA Center Occupational Health Contracting Officer Technical Representatives (COTRs) or the official that serves as a COTR, when appropriate, and in the case of the Johnson Space Center, the Chief of Space Medicine and/or the Clinical Services Branch Chief, shall be responsible for:

a. Notifying the CHMO in writing (e.g., letter and/or e-mail) of any medical incidents occurring at their Center or facility that may warrant a formal medical incident investigation;

b. Overseeing/conducting a medical incident investigation, including assignment of impartial investigating officers where appropriate, according to the proscribed procedures established by the CHMO and noted in Appendix D;

c. Providing to the CHMO the results of a medical incident investigation and all relevant records and data collected during the investigation; and

d. Report to the CHMO any temporary or permanent limitation of privileges, as described in Appendix E, for a privileged health-care provider, pending investigation, and establishment of a Medical Review Board.

2.2.3 No individual shall conduct or oversee the investigation of a reported medical incident in which they were personally and directly involved. Where necessary, such investigation shall be conducted by another NASA facility with the approval of the CHMO.

Chapter 3. Confidentiality of Medical Quality Assurance Records

3.1 Introduction

3.1.1 NASA medical operations shall maintain a system of records for physician credentialing information and medical quality assurance activities. The records include, but are not limited to, records associated with activities conducted by civil servants, detailees to NASA, contractors, or consultants related to the provision of medical, dental, or psychological care, and any committees or other review bodies responsible for medical quality assurance.

3.1.2 The records associated with these activities shall include: patient care, assessment, and medical and behavioral health records; health-care provider credentialing and privileging records of health-care providers; and information collected and compiled for quality assurance reviews and assessments.

3.1.3 The records shall include the clinical and health-care provider instructions, clinical and medical procedure records, and records of all ancillary medical activities required to prescribe quality assurance activities, including closely related specifications such as required qualifications of personnel, procedures, and equipment.

a. The records shall include the instructions or procedures that establish a records retention program consistent with applicable regulations and NASA policy requirements and designate factors such as duration, location, and assigned responsibility.

3.1.4 Medical Quality Assurance (QA) records created by or for NASA, as part of a medical QA program, shall be confidential and privileged. They may not be made available to any person, except in those cases described in sections 3.2 and 3.3, under the "Freedom of Information Act" (Section 552) and the "Privacy Act" (Section 552a) of Title 5, United States Code.

3.1.5 As a system of records, QA records are within the purview of the "Privacy Act" of 1974, as amended and, therefore, the health-care provider who is the subject of a QA action may be entitled access to the records. With the exception of such a provider, the identities of third parties in the record (i.e., any person receiving health-care services from NASA or any other person associated with the NASA QA program) shall be redacted from the record before any disclosure of the record is made outside the Agency. No part of any medical QA record may be subject to disclosure, except pursuant to applicable law.

3.1.6 No part of any medical QA record shall be subject to discovery or admitted into evidence in any judicial or administrative proceeding, except in those cases described in sections 3.2 and 3.3, under the "Freedom of Information Act," or under applicable law.

3.1.7 A person who reviews or creates medical QA records for NASA or who participates in any proceeding that reviews or creates such records shall not testify in any judicial or administrative proceeding on such records or on any finding, recommendation, evaluation, opinion, or action taken by such person or body for such records, except in those cases described in sections 3.2 and 3.3, under the "Freedom of Information Act," or under applicable law.

3.1.8 A person or entity having possession of medical QA records, or access to medical QA records or testimony, shall not disclose the contents of such record or testimony in any manner or for any

purpose, except in those cases described in sections 3.2 and 3.3, under the "Freedom of Information Act," or under applicable law.

3.2 Access to Quality Assurance Records and Documents Within the Agency

3.2.1 Access to confidential and privileged quality assurance records and documents shall be restricted to NASA employees (including detailees, consultants, and contractors) who have a need for such information to perform their government duties or contractual responsibilities and who have been granted authorized access by the Chief Health and Medical Officer (CHMO).

3.2.2 To foster continuous quality improvement, NASA medical personnel may have access to confidential and privileged quality assurance records and documents relating to evaluation of the care they provide.

3.2.3 Any quality assurance record or document, or the information contained within them, whether confidential and privileged or not, shall be provided to the NASA Inspector General upon request. A written request is not required (a written record of the request will be maintained by the Office of the Chief Health and Medical Officer).

3.3 Non-NASA Disclosure of Quality Assurance Records and Documents

3.3.1 For any disclosure made for the purposes described in this section, and not necessary to achieve those purposes, the name of, and other identifying information regarding any individual patient, employee, or other individual associated with NASA shall be redacted from any confidential and privileged quality assurance record or document before any disclosure is made. NASA medical QA records may be authorized for disclosure or testimony to the following:

a. Any survey teams, national accreditation agencies or boards, and other organizations requested by NASA to assess the effectiveness of quality assurance program activities or to consult regarding these programs;

b. Any committees, panels, or boards convened by NASA to review Agency policy and practices. Any Federal executive agency or private organization, which will, if necessary, license, accredit, or monitor NASA health-care facilities;

c. Any proceeding commenced concerning the termination, suspension, or limitation of their clinical privileges for a present or former NASA civil servant or NASA assigned detailee, contractor, or consultant care provider;

d. A governmental board or agency or a professional health-care society or organization, if necessary, to perform licensing, or privileging, or to monitor professional standards for a health-care provider who is or was an employee of NASA, detailed to NASA, or a NASA contractor, or consultant assigned to NASA;

e. Other Federal agencies, upon their written request, to permit NASA's participation in health-care programs including health-care delivery, research, planning, and related activities with the requesting agencies. If NASA decides to participate in the health-care program with the requestor, the requesting agency must enter into an agreement with NASA to ensure that the Agency and its staff maintain the confidentiality of any quality assurance records or documents shared with the

Agency;

f. Civil or criminal law enforcement governmental agencies or instrumentalities charged under applicable law with the protection of public health or safety, including state licensing and disciplinary agencies, if a written request for such records or documents is submitted by an official of the organization, if the request states the purpose for which the records will be used, and if the purpose for the records is authorized by law;

g. Federal agencies charged with protecting the public health and welfare, Federal, state, and private agencies which engage in various monitoring and quality control activities, agencies responsible for licensure of health-care facilities or programs, and similar organizations, if a written request for such records or documents is received from an official of the organization and the request states the purpose for which the records will be used;

h. A hospital, medical center, or other institution that provides health-care services, if needed by such institution to assess the professional qualifications of any health-care provider who is, or was, an employee or contractor of NASA and who has applied for, or has been granted, authority or employment to provide health-care services in or on behalf of such institution; and

i. The General Accounting Office or committee of Congress if such records or documents pertain to any matter within their jurisdiction.

j. A court of competence jurisdiction, pursuant to a protective order.

3.4 Responsibilities

3.4.1 The CHMO shall be responsible for ensuring that each NASA clinic has developed policies and procedures for:

(a) Monitoring of QA recordkeeping processes and practices to assure appropriate implementation of this policy and issuing any additional requirements necessary for its implementation, and

(b) Maintaining a record of requests for access to NASA medical QA records as described in this policy.

3.4.2 Center Chief Medical Officers/Medical Directors, in collaboration with NASA Center Occupational Health Program Managers, and in the case of the Johnson Space Center, the Director of the Flight Medicine Clinic, shall be responsible for:

a. Maintaining medical QA records and assuring such records meet privacy requirements as described in this policy;

b. Reporting to the CHMO in writing (e.g., letter and/or e-mail) any requests for disclosure of medical QA records; and

c. Providing medical QA records only to approved recipients as described in this NPR.

Appendix A. Definitions

A.1 Clinical privileges -- Those specific medical, surgical, diagnostic, and therapeutic procedures that are within the scope of privileges granted to a member of the medical staff, defining the limits of patient care services a practitioner may render.

A.2 Competence -- Having the knowledge, skills, and abilities to provide a level of care that is acceptable to the medical community of peers.

A.3 Credentials -- Documented evidence of licensure, education, and training.

A.4 Health-care delivery -- The supervision, monitoring, or direct delivery of prevention, treatment, and management of illness and the preservation of mental and physical well-being through the supervision of, monitoring of, or the direct delivery of services offered by the medical, nursing, and allied health professionals.

A.5 Health-care provider -- The licensed independent practitioner responsible for overall medical or psychological care and treatment of each patient (e.g., medical, nursing, and allied health professionals who provide services without direction or supervision).

A.6 Health-care support personnel -- The licensed personnel (e.g., nurses, pharmacists, dietitians, certified athletic trainers, and other allied health professionals who provide services with direction or supervision) and non-licensed personnel (e.g., lab and x-ray technicians, emergency medical technicians (EMTs), dental assistants, strength and conditioning specialists, and wellness counselors who are under direction or supervision) who provide health-care support services in the NASA medical system.

A.7 Medical Incident -- A deviation from the standard of care occurring in the NASA health-care system, as perceived by the patient, another practitioner, or a reviewing quality monitoring body, including any medical incident in which undue harm, illness, morbidity, or mortality or excessive financial burden to the patient or agency occurs as a result of the care provided or omitted. This includes, but is not limited to, a missed diagnosis, incorrect diagnosis, therapeutic error, delay of diagnosis and/or treatment, admissions as a result of delayed diagnosis or treatment, complication of treatment, any incident with NASA medical system-wide implications, any incident in which legal recourse or claims for perceived malpractice or negligence has been brought by the patient or the patient's guardian, and any incident in which there has been a perceived moral or ethical breach of appropriate practitioner conduct.

A.8 Medical quality assurance program -- A comprehensive program within NASA to systematically review and improve the quality of medical and behavioral health services to ensure the safety and security of persons receiving medical and behavioral health services, and the efficiency and effectiveness of the utilization of staff and resources in the delivery of medical and behavioral health services. It includes any activity carried out by or for NASA to assess the quality of medical care.

A.9 Peer -- A professional colleague with similar training and clinical experience.

A.10 Peer review -- Peer review is the activity of looking objectively at the quality of care and practice of a provider. This is accomplished by peers looking at performance-based clinical practice, records, and other applicable data.

A.11 Primary source verification -- Obtaining and verifying credential information directly from the originating source such as a university, medical boards, and state and Federal licensure authorities.

A.12 Quality assurance records -- The proceedings, discussion, records, findings, recommendations, evaluations, opinions, minutes, reports, and other documents or actions that emanate from quality assurance committees, quality assurance programs, or quality assurance program activities.

A.13 Standard of Care -- The accepted or correct actions of a provider, taken in order to arrive at a diagnosis or to implement treatment for a given disease, disorder, or patient problem, adjusted for the patient's presentation and other conditioning factors. The standard of care is what is generally accepted in the health care discipline or specialty involved as reasonable and appropriate and is determined by peer review.

A.14 Statement of Exceptions and Corrections -- The response of a provider, who has requested a Fair Hearing, to the Hearing Committee Final Report.

A.15 Verification -- The confirmation of the appropriateness, currency, and authenticity of any licensure, certification, or training credentials of a health-care provider.

Appendix B. Acronyms

ACLS -- Advanced Cardiac Life Support

AED -- Automated External Defibrillator

BLS -- Basic Life Support

CHMO -- Chief Health and Medical Officer

CMO -- Chief Medical Officer

COTR - Contracting Officer Technical Representative

CPR -- Cardiopulmonary Resuscitation

EMT -- Emergency Medical Technician

MD -- Medical Director

MRB -- Medical Review Board

MRO -- Medical Review Officer

OCHMO -- Office of the Chief Health and Medical Officer

OH -- Occupational Health

QA -- Quality Assurance

Appendix C. References

C.1 5 U.S.C. 552a, the Privacy Act of 1974, as amended.

C.2 NPR 1382.1, NASA Privacy Procedural Requirements.

C.3 NPD 1800.2, NASA Occupational Health Program (Revalidated 3/29/04).

C.4 NPD 1440.6, NASA Records Management.

C.5 NPR 1800.1 NASA Occupational Health Program Procedures, Chapter 2.2.

C.6 NPR 8715.2, NASA Emergency Preparedness Procedural Requirements.

C.7 NASA Occupational Health Medical Quality Assurance Program Employee and Management Directed Principles, Section II, Staff Qualifications and Competency.

C.8 Health Care Quality Improvement Act, as amended.

C.9 42 U.S.C. §§ 11101 & 11111 et.seq. , Health Care Fraud and Abuse Data Collection Program.

C.10 42 U.S.C. § 1320a-7e; 45 C.F.R. Part 60, National Practitioner Data Bank for Adverse Information on Physicians and Other Health Care Practitioners.

C.11 45 C.F.R. Part 61, Healthcare Integrity and Protection Data Bank for Final Adverse Information on Health Care Providers, Suppliers and Practitioners.

C. 12 14 CFR Part 1206 Availability Of Agency Records To Members Of The Public.

C. 13 14 CFR Part 1212 Privacy Act--NASA Regulations.

C. 14 14 CFR Part 1263 Demand For Information Or Testimony Served On Agency Employees; Procedures.

Appendix D. Medical Incident Investigation

D.1 Introduction

D.1.1 Medical incident investigations will be conducted by an independent panel according to the procedures noted below. The panel will include personnel with similar experience and expertise as those involved in the medical incident. Physician members shall be board certified and experienced in the appropriate area of interest.

D.2 Responsibilities

D.2.1 The Center Chief Medical Officer/Medical Director (CMO/MD) will ensure that the Chief Health and Medical Officer (CHMO) is notified of all medical incidents involving serious physical or psychological injury or death.

D.2.2 The Center Chief Medical Officer/Medical Director and Center Occupational Health Contracting Officer Technical Representative (COTR), or the appropriate official that serves as that COTR, will appoint the independent panel to investigate the incident.

D.2.3 The CHMO will appoint the investigating panel in cases involving the CMO/MD.

D.3 Process Description

D.3.1 Minimum factors the independent panel will consider include:

a. Human Factors such as:

- Proper training, certifications, and privileges;
- Competency;
- Fatigue (work-rest cycles);
- Judgment;
- Stressors (external and work related);
- Interpersonal relationships with coworkers; and
- Possible drug or alcohol influence.

b. Operational and System Factors such as:

- Communication issues;
- Biomedical equipment or technical failures;
- Staffing and scheduling issues;
- Proper procedure guidelines documented and implemented; and
- Proper supervision of clinical activities.

c. Witnesses - All witnesses will be informed that their statements may not be confidential and that they will be interviewed upon their consent.

d. Possible Criminal Behavior - If a criminal violation is suspected, the CHMO must be immediately notified in writing who, in turn, will notify appropriate NASA legal counsel (i.e., the Office of General Counsel and the Office of Inspector General). The investigation will stop pending further guidance from the CHMO and the appropriate NASA legal counsel.

D.3.2 The panel will determine if the standard of care was met.

D.3.3 The panel will report findings and provide all relevant records and data collected to the CHMO. The CHMO may convene the Center CMOs and/or elements of the Medical Policy Board to review the investigation results and recommend actions. Adverse actions taken against privileged providers will be performed in accordance with Appendix E.

Appendix E. Adverse Actions and Fair Hearing Procedures

E.1 Adverse Privileging Actions

E.2 Introduction

E.2.1 When a privileged medical provider's mental or physical condition, conduct, or clinical performance requires action to temporarily limit their clinical privileges, the Center Chief Medical Officer/Medical Director may do so, with the concurrence of the Chief Health and Medical Officer (CHMO), pending additional information or investigation.

E.3 Responsibilities

E.3.1 The CHMO will assign an independent investigating officer and a Medical Review Board (MRB) of peers to investigate and make recommendations regarding provider privileges.

E.3.2 The investigating officer will perform a thorough and impartial investigation of all issues related to the temporary abeyance or suspension of privileges.

E.3.3 The MRB of provider peers will review the investigating officer's findings and makes impartial recommendations to the CHMO regarding privileges.

E.4 Process Description

E.4.1 Temporary limitations placed on a provider's clinical privileges are in the form of an abeyance or suspension of those privileges.

a. Abeyance - An abeyance is a temporary limitation of some, or all, clinical privileges. This is not considered an adverse privileging action unless the investigation results in subsequent adverse actions. If no adverse action is indicated, the provider is reinstated and no entry is made in the providers credentials/privileges file and no reports are made to regulatory agencies. The provider must be notified, in writing, that clinical privileges are being placed in abeyance pending additional information or investigation.

b. Suspension - In cases where there is reasonable belief that the action is warranted by the facts, provider misconduct, professional incompetence, or negligence that poses a threat to the safety of patients, a suspension of clinical privileges may be used. A suspension is an adverse privileging action which must be disclosed by the provider for future licensing, privileging, and insurance purposes, even if the outcome is full reinstatement of privileges. Appropriate reports are made to regulatory agencies.

The provider must be notified in writing of the suspension of privileges pending an investigation, the reason for the investigation, and the length of the suspension. Resignation from employment of a provider following suspension of privileges shall not prevent the investigation and final recommendations process from continuing.

c. For all temporary adverse privileging actions, the CHMO will assign an independent investigating

officer and an MRB consisting of professional peers that are impartial to the case. The MRB will review investigation findings and make final recommendations to the CHMO for evaluation and implementation. The provider does not have the right to present his/her case to the MRB but may provide a written statement for consideration.

E.4.2 The MRB will make one of the following recommendations:

a. Reinstatement of Privileges - There are no recommendations to limit or revoke clinical privileges. There may be recommendations for additional monitoring and evaluation. This is not an adverse privileging action following abeyance of privileges;

b. Restriction of Privileges - Restriction is a temporary limit placed on all or a portion of a provider's clinical privileges. This may require some direct supervision for some clinical duties. Privileges may be reinstated at a later date;

c. Reduction of Privileges - Reduction is a permanent removal of a portion of a provider's privileges;

d. Revocation of Privileges - Revocation is the permanent removal of all clinical privileges; and

e. Denial of Clinical Privileges - Denial of privileges occurs when an application for privileges or renewal of privileges is denied for substandard performance, professional misconduct, or impairment.

E.4.3 All documents related to adverse privileging actions, including all of the processes noted above, will include the following statement on the bottom of each document: "Medical Quality Assurance (QA) records created by or for NASA, as part of a medical QA program, are confidential and privileged." No part of any medical QA record may be subject to disclosure, except pursuant to applicable law.

E.5 Fair Hearing Process

E.5.1 Introduction

E.5.1.1 Any provider whose clinical privileges are denied, restricted, reduced, or revoked may request a Fair Hearing within 30 business days of notification of the adverse action. Adverse action notification will consist of the action taken and any supporting information or records.

E.5.2 Responsibilities

a. The CHMO will appoint a Hearing Committee when requested by a provider who has had an adverse privileging action. The CHMO reviews all documentation and provides final notification of findings and recommendations to the provider as required.

b. A legal representative will be appointed to oversee the Fair Hearing process as noted below.

c. The Hearing Committee Chairperson and members will conduct a fair and impartial hearing and make final recommendations to the CHMO based on the preponderance of evidence.

E.5.3 Process Description

E.5.3.1 Upon receipt of a request for a Fair Hearing, the CHMO will appoint a Hearing Committee of three providers with one assigned as Chairperson and at least one member a peer to the provider, based on clinical experience and training.

E.5.3.2 The CHMO will notify the provider in writing of:

a. The date, time, and location of the hearing;

b. The provider's right to be present, present evidence, and call witnesses;

c. The names of witnesses to be called by NASA;

d. The right to cross-examine all witnesses; and

e. The right to have legal counsel present.

E.5.3.3 The Hearing Committee may question all witnesses and examine all documents, as necessary. The Chairperson will arrange for orderly presentation of evidence and witnesses. The investigating officer may testify before the Hearing Committee. A verbatim record of the proceedings is required. This may require contracting the services of a court reporter who will provide a written transcript in a timely manner.

E.5.3.4 After hearing all testimony and considering all evidence, the Hearing Committee will make a written recommendation to the CHMO. Findings and recommendations will be completed as soon as possible and signed by all committee members. A "preponderance of evidence" and "standard of care" standards will be applied, meaning the greater weight of credible evidence without the requirement for proof beyond a reasonable doubt. Final recommendations may include a minority report, if the committee is not in unanimous agreement. The final report and transcript will be provided to the CHMO and the provider involved within 30 business days of the hearing completion.

E.5.3.5 The provider has ten business days to review the final report and transcript and provide a Statement of Exceptions and Corrections.

E.5.3.6 The CHMO will review the Hearing Committee Final Report, the hearing transcript, and the provider's Statement of Exceptions and Corrections prior to making written notification of the final decisions and adverse actions, if any. The provider must be notified of the right to appeal the findings within ten business days of receipt of the final letter.

E.5.3.7 The appeal process will include review of all documents by a NASA legal advisor and a medical provider consultant with appropriate specialty training, neither of whom being involved in the process thus far. These advisors will make recommendations to the CHMO who will then issue a final recommendation.

E.5.3.8 After final disposition is made, the appropriate regulatory agencies (e.g., National Practitioner's Data Base) will be notified regarding the adverse privileging action.

E.5.3.9 All documents related to the Fair Hearing process, including all of the processes noted above, will include the following statement on the bottom of each document: "Medical Quality Assurance (QA) records created by or for NASA, as part of a medical QA program, are confidential and privileged." No part of any medical QA record may be subject to disclosure, except pursuant to applicable law.

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

HISTORICAL DATA

March 30, 2015

Occupational Health Services
Historical Data

1. Historical Workload

On average, the Health Unit (to include the Building 703 Medical Office) has approximately 2,700 total patient encounters, accomplishing approximately 6,500 different medical activities, each year. The majority of these encounters and activities are for the provision of work-related physical examinations, such as job-certification physicals, medical surveillance physicals, fitness center clearances, and preventive health physicals.

On average, the IH staff annually accomplishes approximately: 1500 document/chemical reviews and permits; 180 evaluations and assessments; 200 surveys; 200 samplings; and training for approximately 1100 students in twelve (12) different functional training areas.

2. Historical Staffing

Occupational Medicine: AFRC has historically required 4.4 Work Year Equivalent (WYEs) OM personnel: One (1) Clinician—usually a combination of a Physician (0.2 WYE) and a Physician Extender such as a Nurse Practitioner (0.8 WYE); Registered Nurses (2.4 WYE); and a full-time Technical Documents Specialist (1.0 WYE).

Industrial Hygiene: AFRC has historically required three (3) WYEs consisting of: Two (2.0) full-time Industrial Hygienists and one (1.0) full-time Industrial Hygiene Technician to accomplish the above workload.

Staffing Information as of March 11, 2015

Title	Approximate WYE (Palmdale)	Approximate WYE (Main Campus)	Approximate WYE Total
Industrial Hygienist	0.4	1.6	2
Industrial Hygiene Technician	0.2	0.8	1
Physician*		0.2	0.2
Nurse Practitioner*		0.8	0.8
Registered Nurse	0.4	2	2.4
Technical Documents Specialist		1	1
Total	**1**	**6.4**	**7.4**

*The Clinician function is fulfilled by a combination of a Nurse Practitioner and a Physician.

Potential Offerors are encouraged to use their discretion in identifying specific labor categories (and proposed education and experience) deemed necessary in accomplishing the respective functional requirements with the provision that justification is provided in the proposal.

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

PAST PERFORMANCE QUESTIONNAIRE

March 30, 2015

Complete one letter and one form for each past performance reference. Additional space or blank sheets may be added to answer any question.

Transmittal Letter to Accompany Present/Past Performance Questionnaire

Date:

Dear Client:

We are currently responding to the NASA Armstrong Flight Research Center's Request for Quote (RFQ) for the procurement of Occupational Health Services.

NASA Armstrong Flight Research Center is placing increased emphasis in its procurements on relevant experience and past performance as a source selection factor. A requirement of this solicitation is that clients of entities responding to this RFQ are identified and their participation in the evaluation process be requested. In the event you are contacted for information on work we have performed, you are hereby authorized to respond to those inquiries.

Please complete the enclosed Past Performance Questionnaire and forward it directly to NASA Armstrong Flight Research Center, Attn: Shari Trigg, 2528 East Avenue P, Building 703, M/S S323, Palmdale, CA 93550, telephone 661-276-2428, Shari.C.Trigg@nasa.gov.

A response to this questionnaire is requested to the above address by May 22, 2015.

We have identified Mr./Mrs. _____ of your organization as the point of contact based on that person's knowledge concerning our work. Your cooperation is appreciated. Any questions may be directed to : _____.

Sincerely,

Enclosure

PAST AND PRESENT PERFORMANCE QUESTIONNAIRE FORM

A. CONTRACTOR'S HISTORICAL DATA:

1. Contractor's Name: _____
2. Telephone Number: _____
3. Contract Type: _____

   Competitive Yes ( ) No ( )

   Follow-On Yes ( ) No ( )

4. If Award-Fee: (i) Provide overall award fee rating: _____
   (ii) Provide award fee percentages earned for the last year.

   Please provide the rating scale used to determine such percentages

   _____%

   _____%

   _____%

   _____%

5. Total Period of Performance: _____
6. Place of Performance: _____
7. Contract Cost at Award: _____
8. Current Contract Cost: _____
9. Total level-of-effort: _____
   (work-years)
10. Contract Purpose (e.g., support service, R&D, etc.)? _____
    _____

    _____
11. Contract award date: _____
12. Total Contract Value: _____
13. Is the contract currently in an overrun situation? Yes ( ) No ( )
14. Is the contract currently in an underrun situation? Yes ( ) No ( )

15. If yes, please explain (*Please address any overruns in direct and indirect overhead rates and their impact on overall cost performance)*:_____

_____

16. Identify and explain any serious performance problems, any terminations for default, any environmental violations, and any safety violations cited: _____

_____

_____

17. Explain any completion delays: _____

18. Please provide the program title and the nature of the effort (i.e., describes the scope of the effort, the type of tasks involved, labor skills used, and support delivered):

_____

_____

_____

19. Briefly describe issue(s) and resolution(s) with any labor/management problems:

_____

_____

_____

20. Contractor performed as the ☐ **Prime** Contractor ☐ **Sub**-Contractor ☐ **Key** Personnel.

Value of Contractor's Share: _____

**** Note: If offeror holds or has held other contracts with your agency/organization in the last 3 years, please complete separate evaluation forms for those contracts as well.***

B. **INDENTIFICATION OF EVALUATOR:**

1. Contracting Agency/Company Name:_____
2. Address: _____

_____

3. Telephone: _____
4. Point of Contact:_____
5. Title: _____

C. <u>RATINGS</u>: Choose the appropriate letter on the scale (E, G, S, M, U, and N) that most accurately describes the contractor's performance or situation***. PLEASE PROVIDE A NARRATIVE EXPLANATION FOR ANY RATINGS OF M or U.***

	QUALITY ASSESSMENT RATINGS FOR EVALUATING PAST PERFORMANCE	
	RATING	***DEFINITION***
E	**Exceptional**	Performance meets contractual requirements with many exceeding the agency's benefit. The contractual performance of the element or sub-element being assessed was accomplished with no more than a few minor problems for which corrective actions taken by the contractor were highly effective.
G	**Very Good**	Performance meets contractual requirements with some exceeding the agency's benefit. The contractual performance of the element or sub-element being assessed was accomplished with no more than some minor problems for which corrective actions taken by the contractor were effective.
S	**Satisfactory**	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 were satisfactory.
M	**Marginal**	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions or the contractor's proposed actions appear only marginally effective or were not fully implemented.
U	**Unsatisfactory**	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.
N	**Neutral**	Performance was not observed or not applicable to the current effort being reported against.

D. QUESTIONS

1. Procurement Performance

a. Has this contract or tasks been partially or completely terminated or subject to litigation?
Yes ( ) Default ( ) Convenience ( )
No ( )

If yes, explain: _____
_____
_____

b. Explain and indicate status of any pending terminations: _____
_____
_____

c. Changes in contract dollar value throughout the life of the contract are/were attributable to:
___ Government-issued change orders
___ Other Government actions
___ Claims submitted by Contractor
___ Other Contractor actions
___ Not Applicable

d. Approximately how many people are/were employed under this contract? _____

e. What has been the key personnel turnover rate for the contract? If Problematic, High or Medium is checked, please explain under comments.
___ Problematic (specific negative effect in meeting contract requirements)
___ High
___ Medium
___ Low

Comments: _____
_____
_____

f. Has there been a Contract Purchasing System Review (CPSR) conducted?
If yes, when and what were the findings? _____
_____

g. Rate the Contractor's record in adhering to or the ability to meet their goals for Small Business, Small Disadvantaged Business, and Women-Owned Small Business subcontracting:
___Excellent ___Very Good ___Good ___Neutral ___Satisfactory ___Poor

CONTRACTOR'S NAME: _____ CONTRACT NUMBER: _____

Note: *Include this information on each page of the questionnaire form to ensure clarification among contracts surveyed for respective primes/subs, etc.*

Place an "X" in the appropriate column using the definitions matrix above.

	Technical Performance	E	G	S	M	U	N
1.	Overall skill level and technical competence of Contractor personnel						
2.	Corrected deficiencies in timely manner and pursuant to their quality control procedures.						
3.	Delegated authority to project managers and supervisors commensurate with contract requirements.						
4.	Home office participated in solving significant local problems.						
5.	Followed approved quality control plan.						
6.	Provided effective quality control and/or inspection procedures to meet contract requirements.						
7.	Provided timely resolution of contract discrepancies.						
8.	Identified problems as they occurred.						
9.	Suggested alternative approaches to problems.						
10.	Displayed initiative to solve problems.						
11.	Developed realistic progress schedules.						
12.	Met established project schedules.						

CONTRACTOR'S NAME: _____ CONTRACT NUMBER: _____

	Technical Performance	E	G	S	M	U	N
13.	Provided timely resolution of warranty defects.						
14.	Was responsive to contract changes.						
15.	Provided adequate project supervision.						
16.	Obtained consent of surety for increases in bonding as work-in-progress increased.						
17.	Paid subcontractors/suppliers in a timely manner.						
18.	Provided accurate and complete line item cost proposals including all aspects of work required for each task.						
19.	Cooperated with Government personnel after award.						
20.	How would you rate the contractor's overall performance?						
21.	Was the contractor ever issued a cure or show cause notice under the referenced contract? If yes, explain outcome in "remarks."				Yes/No		
22.	Would you award another contract to this contractor? If not, explain in "remarks."				Yes/No		
23.	Is the contractor rated in CPARS?				Yes/No		
24.	On this contract, were any licenses or certifications of staff members allowed to expire?				Yes/No		
25.	On this contract, were the medical staff members required to perform medical emergency response?				Yes/No		
	If yes, were any responses ever determined to NOT meet the standard of care?				Yes/No		

Remarks:_____

_____

_____

_____

Neil A. Armstrong Flight Research Center (AFRC)
Edwards, California 93523

OCCUPATIONAL HEALTH SERVICES (OHS)

SOLICITATION No. NND15531905Q

QUALITY ASSURANCE SURVEILLANCE PLAN (QASP)

April 21, 2015

GOVERNMENT QUALITY ASSURANCE SURVEILLANCE PLAN

NASA ARMSTRONG FLIGHT RESEARCH CENTER

OCCUPATIONAL HEALTH SERVICES (OHS)

FIRM FIXED PRICE CONTRACT

RFQ NN15531905Q

OCCUPATIONAL HEALTH SERVICES
GOVERNMENT QUALITY ASSURANCE SURVEILLANCE PLAN (QASP)

1 INTRODUCTION

This Government Quality Assurance Surveillance Plan (QASP) is pursuant to the requirements listed in the Performance Work Statement (PWS) entitled Occupational Health Services. This plan sets forth the procedures and guidelines NASA Armstrong Flight Research Center (AFRC) will use in ensuring the required performance standards or services levels of work performed under this contract are achieved by the OHS Contractor.

This plan is applicable to all services performed by the OHS Contractor(s). Throughout this QASP, the term OHS Contractor is used. In terms of this plan, it should be known that unless explicitly stated, this term is applicable to both the OHS Contractor and any and all subcontractors.

Under fixed price contracts, the contractor assumes more responsibility and greater risk in exchange for more flexibility and less direct Government involvement in contract activities. However, the Government still has a responsibility to monitor the contractor's performance over the course of the contract to ensure its acceptability. To meet this responsibility, the Government needs sufficient information on contractor performance to be assured contract requirements are being satisfied.

The QASP is a Government-developed surveillance tool prepared in accordance with FAR 46.601 and NFS 1846.401. It is not part of the contract, per NFS 1846.401, but provided to the Contractor for informational purposes only.

1.1 Purpose

The purpose of the QASP is to provide an effective surveillance method of monitoring contractor performance in accordance with the PWS. The QASP provides a systematic method to evaluate the services the Contractor is required to furnish. The Contractor, and not the Government, is responsible for management and quality control actions to meet the terms of the contract.

This QASP defines the roles and responsibilities of all members of the surveillance team, defines the process the Government expects to follow to obtain data, evaluate the Contractor, and determine if Contractor's performance conforms to the contract requirements.

The QASP is intended to be a "living" document from which resources and activities will evolve during the life of the contract, and can be updated and changed unilaterally by the Government at any time during the contract.

1.2 Contract Goals and Objectives:

The purpose of this Firm-Fixed Price contract is to provide OHS to the AFRC. The specific services covered are Occupational Medicine (to include Occupational Health Nursing and Fitness Center Management), as well as Industrial Hygiene and Health Physics (i.e. Radiation Safety). Services specifically EXCLUDED from this PWS are: Employee Assistance Program (EAP), Workplace Drug-Testing (including Specimen Collection and/or Medical Review), Workers' Compensation Case Management, and Environmental Management. Though certain Health Physics functions are required (e.g. laser permitting), there is no specific requirement for a Health Physicist.

The Contractor's primary requirement under this contract is to ensure the safety and health of workers through compliance with all applicable laws, regulations, policies and standards related to occupational health.

NASA has defined the requirements for an Occupational Health Program under NASA Procedural Requirement (NPR) 1800.1, entitled, "Occupational Health Program Procedures". Many of these requirements reflect or expand upon other Federal requirements, as promulgated through the Occupational Safety and Health Administration (OSHA), the Federal Aviation Administration (FAA), the Federal Motor Carrier Safety Administration (FMCSA), and various other organizations responsible for establishing industry standards such as the American Conference on Governmental Industrial Hygienists (ACGIH). More NASA-specific procedures for implementing these requirements are found in various AFRC Operational Procedures, Standards, Plans and Policies. The PWS outlines what objectives the Contractor shall accomplish to fulfill the specific elements of NPR 1800.1 and related Center documents. For the purposes of this requirement, the term 'Occupational Medicine' shall include the functions of Occupational Health Nursing and Fitness Center Management, unless otherwise noted. The term 'Industrial Hygiene' shall also include the function of Health Physics (Radiation Safety), unless otherwise noted.

2 FORMS OF SURVEILLANCE

Surveillance Strategy Definitions

<u>Insight</u>

Insight is an assurance process that uses performance requirements and performance metrics to ensure process capability, and quality of deliverables. Insight relies on gathering a minimum set of deliverable or process data that provides adequate visibility into the integrity of the deliverable or process. The data may be acquired from Contractor records or report deliverables, usually in a non-intrusive parallel method.

Insight as applied to this contract will result in lower levels of Government surveillance and allow the Contractor to assume increased responsibility and accountability for the integrity of processes. Insight will rely heavily on evaluating planned contract deliverables, performance

standards, and existing Contractor procedures and working documents. The Government's goal is to follow an insight-driven surveillance strategy

Oversight

Oversight results in higher levels of Government surveillance. The Government gathers information pertaining to the Contractor's process through involvement and/or inspection in the process and monitors the process itself.

Oversight is an assurance process that uses customer-imposed specification and process controls, such as performance specifications and mandatory inspections, to direct the development and production of the deliverable. Oversight entails very detailed monitoring of the process itself. Oversight is an in-line involvement in an activity, principally through inspection, with review and approval authority implicit to the degree necessary to assure that a process or deliverable's key characteristics are stable and in control. The Government's involvement in the Contractor's performance, through oversight, will be determined necessary by the Contracting Officer's Representative.

AFRC will strive to use an insight-driven surveillance approach through the performance period of the OHS contract. However, the Government reserves the right to use am oversight approach to monitor questionable areas or areas of poor contract performance.

3 ROLES AND RESPONSIBILITIES

General organization and responsibilities of the Surveillance Team are as follows:

3.1 General

The activities detailed in this plan will be supported and performed by a group of individuals, many with differing levels of responsibilities, but all maintaining a level of consistency in terms of the surveillance strategy, approach, and activities in general. The specific entities and their associated responsibilities/input to the surveillance activities on the contract are described in the following paragraphs.

3.2 Surveillance Team

3.2.1 Contracting Officer/Contract Specialist

The NASA AFRC Contracting Officer (CO) and/or Contract Specialist (CS) is responsible for monitoring contract compliance, contract administration, and for resolving any differences between the observations documented by the NASA AFRC Contracting Officer's Representative (COR) and the Contractor. The CO will designate one full-time COR as the Government authority for performance management. The number of additional representatives serving as Task Monitors (TMs) depends on the number and complexity of the services, as well as the Contractor's performance, and must be identified and designated by the COR.

As required by FAR 42.1502(b), the CO will complete an annual Contractor performance assessment report for work performed under this contract using the Contractor Performance Assessment Reporting System (CPARS) evaluation, which will also be reviewed by the Contractor, and become a part of the Past Performance Information Retrieval System (PPIRS).

3.2.2 Contracting Officer's Representative

The NASA AFRC COR is designated in writing by the NASA CO to act as his or her authorized representative to assist in administering the contract. The COR's limitations of authority are contained in the NASA Form 1634, COR Delegation. The COR is responsible for technical administration of the project and ensures proper Government surveillance of the Contractor's performance. The COR is not empowered to make any contractual commitments, authorize any contractual changes on the Government's behalf, or in any way direct the Contractor to operate in conflict with the contract. Any changes that the Contractor deems may affect contract price, terms, or conditions shall be referred to the CO for action. The COR will have the responsibility for monitoring, inspecting, and evaluating the Contractor's work performance. Government surveillance may occur under the inspection of services clause for any services provided under this contract.

The COR will assist the CO in the completion of the annual performance assessment report for work performed under this CONTRACT using CPARS.

3.2.3 Task Monitors

The NASA AFRC Task Monitors (TMs) are individuals appointed by the COR for the surveillance of specific areas under the contract. TMs provide detailed technical surveillance of the Contractor's performance and report findings to the COR in a timely, complete and impartial fashion. While the TMs may serve as a direct conduit to provide Government guidance and feedback to the Contractor on technical matters, the TMs are not empowered to make any contractual commitments, authorize any contractual changes on the Government's behalf, or in any way direct the Contractor to operate in conflict with the contract.

3.2.4 Other Surveillance Team Support

Other Government personnel such as the AFRC Safety, Health and Environmental Office, Defense Contract Audit Agency (DCAA), Defense Contract Management Agency (DCMA), and local contract support personnel, as required may assist in surveillance activities.

4 METHODOLOGIES TO MONITOR PERFORMANCE

4.1 Surveillance Techniques

In an effort to minimize the performance management burden, simplified surveillance methods will be applied to the insight areas described in Section 5 of this document to evaluate Contractor performance to determine whether the performance standards/service levels required have been met. The primary methods of surveillance are described below.

4.1.1 Communications

Communications is a general surveillance activity. Communications is a two-way process and includes both written and oral communication. Examples of written communications activities that may be used in conducting surveillance include:

a. Exchanges from the OHS Contractor to the Government of plans, procedures, quality records, reports, etc., and/or provision of read-only access to repositories which retain these items.
b. Exchanges from the Government to OHS Contractor of letters, reports, review results, etc.
c. Ad hoc information submitted by NASA AFRC COR and/or TM(s) to the CO related to the OHS Contractor's electronic mail.

Examples of oral communications activities that may be used in conducting surveillance include:

a. Informal telephone calls, teleconferences.
b. Informal verbal inquiries, discussions.
c. Working group meetings, technical/status briefings, progress reviews, technical information meetings, and formal and informal reviews.
d. Informal discussions.

4.1.2 Management Reviews and Reporting

Examples of management review and reporting activities that may be used in conducting surveillance include:

a. Formal, process, and progress reviews
b. Review of contract deliverables (e.g., Monthly Reports) and documentation
c. Documentation of problems, issues and concerns
d. Data collection reporting

4.1.3 Customer Feedback

The Contractor is expected to establish and maintain professional communication between its employees and customers. The primary objective of this communication is customer satisfaction. Customer satisfaction is the most significant external indicator of the success and effectiveness of all services provided and can be measured through customer complaints.

Performance management drives the Contractor to be customer focused through initially and internally addressing customer complaints and investigating the issues and/or problems but the customer always has the option to communicate complaints to the CO or COR, as opposed to the Contractor.

Customer complaints, to be considered valid, must set forth clearly and in writing the detailed nature of the complaint, must be signed, and must be forwarded to the COR. The COR will

accept those customer complaints, perform an investigation, and notify the CO and Contractor, accordingly. Customer feedback may also be obtained either from the results of formal customer satisfaction surveys or from random customer complaints and feedback.

5. SURVEILLANCE ACTIVITIES

5.1 General

There exist specific insight areas that the Government and the OHS Contractor shall concentrate on during applicable stages of work being performed. Each of these insight areas and the Government's expectations for these areas are described in Table 1.

Table 1. Surveillance Insight Areas

Area of Risk Identified	Impact to Government	Surveillance Team Activity
Information Technology (IT) Security	Computer Security: Potential corruption and loss of data; disruption of schedule	Review of IT security plans and contingency test results and controls. Review compliance with policies, firewalls, protection software, vulnerability scans and external systems.
Property Management, Control, and Maintenance	Loss of or damage to equipment; potential schedule impact	Review Contractor property management techniques, compliance with policies, and record-keeping.
Safety	Loss of work-time or equipment, with schedule impact	Evaluate compliance with the Contractor's Safety, Health and Environmental Management Plan (SHEMP) and safety requirements.
Continuous Risk Management	Technical, schedule, safety, and program success	Periodically ensure that the Contractor is performing a Continuous Risk Management program that identifies, analyzes, tracks, mitigates, controls and reports on related risks.
Quality Management	Technical, schedule, safety, and program success	Monitor the Contractor's internal and external audits for compliance with the Contractor's established QCP.
Organizational Conflicts of Interest (OCI) Avoidance	Potential restrictions, ineligible to perform, and/or unfair competitive advantage on future work	Monitor submittal, enforcement and compliance with Contractor OCI Avoidance Plan.
Environmental	Environmental damage to local and remote sites	Conduct periodic inspections to ensure compliance with environmental requirements.

5.2 Surveillance Team Activities

The surveillance team members will participate in review meetings. They will provide support, as necessary, with the review of technical requirements, and flow-down of requirements. They will also maintain insight into the Contractor's compliance with relevant deliverables submitted under the contract and services performed. When the Government has concerns regarding Contractor performance, surveillance team members may conduct independent audits of the Contractor's activities, processes, documentation, and data in order to provide assurance that the program is being implemented according to all requirements and performance standards. These audits will normally be conducted with advance notification and coordinated with the Contractor. However, the Government reserves the right to conduct unscheduled audits when evidence indicates that Contractor performance is deficient.

The following selected surveillance team activities will be performed by various surveillance team members during applicable stages of work being performed (as provided in Table 2):

***Table 2*: Surveillance Performance Requirement Summary:**

Performance Objectives	Performance Requirement	Acceptable Quality/Timeliness Standards	Monitoring Methods	Deduction Schedule, per the Total Contract Value
Health Unit Staffing	PWS 4.1.1	Number of days per year without a LMP at the main site	Government quarterly review of documents	# Days per Year 0-10 Events = No deduction 11-20 Events = 1% deduction 20-30 Events = 2% deduction 31+ Events = 3% deduction
Required Licenses and Certifications	PWS 4.1.3	Number of days any Licensed Medical Professional (LMP) expired on license	Government quarterly review of documents	0-30 Days = No deduction 30-60 Days = 1% deduction 60-180 Days = 3% deduction 181+ Days = 5% deduction
Required Licenses and Certifications	PWS 4.1.3	Number of days MD expired/without Federal Aviation Administration Senior Aviation Medical Examiner designation	Government quarterly review of documents	0-30 Days = No deduction 30-60 Days = 1% deduction 60-180 Days = 3% deduction 181+ Days = 5% deduction
Required Licenses and Certifications	PWS 4.1.7	Number of days any LMP expired on Advanced Cardiovascular Life Support (ACLS) certification	Government quarterly review of documents	0-30 Days = No deduction 30-60 Days = 1% deduction 60-180 Days = 3% deduction 181+ Days = 5% deduction
Automated External Defibrillator (AED) Monitoring	PWS 4.1.11	Number of AEDs not checked within 180 days	Government quarterly review of documents	# Events per Year 0-2 Events = No deduction 3-4 Events = 1% deduction 4-6 Events = 2% deduction 7+ Events = 3% deduction
Exposure Assessment	PWS 4.2.1	Number of worksite Exposure Assessments greater than six (6) months behind schedule	Government quarterly review of documents	# Events per Year 0-4 Events = No deduction 5-8 Events = 1% deduction 9-12 Events = 2% deduction 13+ Events = 3% deduction
Internal Assessments:	PWS 4.2.1	Number of Program Self-Review (i.e. Internal Assessments) not	Government quarterly review of documents	# Events per Year 0-4 Events = No deduction 5-8 Events = 1% deduction

		accomplished within twelve (12) months of schedule		9-12 Events = 2% deduction 13+ Events = 3% deduction
Performance Objectives	**Performance Requirement**	**Acceptable Quality/Timeliness Standards**	**Monitoring Methods**	**Deduction Schedule, per the Total Contract Value**
Equipment Calibration	PWS 4.2.3	Number of equipment/instrument items expired on calibration	Monthly Metrology Report from Code M	# Expired per Year 1 Expired = 5% deduction 2 Expired = 10% deduction 3 Expired = 20% deduction 4 Expired = 40% deduction
Document & Chemical Reviews	PWS 4.2.6	Number of chemical/document reviews per year not accomplished within 10 days	Government quarterly review of documents, and customer input	# Events per Year: 0-24 Events = No deduction 25-48 Events = 1% deduction 49-60 Events = 3% deduction 61+ Events = 5% deduction
Permitting	PWS 4.2.7	Number of radiofrequency, microwave and laser permits not acted upon within 10 days of request	Government quarterly review of documents, and customer input	# Events per Year: 0-10 Event = No deduction 10-20 Events = 1% deduction 10-30 Events = 3% deduction 31+ Events = 5% deduction
Surveys & Sampling	PWS 4.2.13	Number of validated ROUTINE sampling/survey requests not accomplished within thirty (30) days	Government quarterly review of documents and customer input	# Events per Year 0-6 Events = No deduction 7-12 Events = 1% deduction 13-18 Events = 2% deduction 19+ Events = 3% deduction
Surveys and Sampling	PWS 4.2.13	Number of URGENT sampling/survey requests not accomplished within one (1) day	Government quarterly review of documents and customer input	# Events per Year 0-2 Events = No deduction 3-4 Events = 1% deduction 4-6 Events = 2% deduction 7+ Events = 3% deduction
Required Certifications	PWS 4.2.14	Number of days IH expired/without Certified Asbestos Consultant Certification	Monitoring of Certification expiration dates by COR	0-30Days = No deduction 30-60 Days = 1% deduction 60-180 Days = 3% deduction 181+ Days = 5% deduction
Required Certifications	PWS 4.2.14	Number of days IH expired/without Lead Assessor/Inspector Certification	Monitoring of Certification expiration dates by COR	0-30 Days = No deduction 30-60 Days = 1% deduction 60-180 Days = 3% deduction 181+ Days = 5% deduction
Attendance at Meetings	PWS 4.2.19	Number of days in which there is no IH attendance (in person or by teleconference) at morning safety meeting at Bldg. 703 (Science Aircraft Integration Facility)	Government quarterly review of documents and customer input	# Events per Year 0-24 Events = No deduction 25-48 Events = 1% deduction 49-60 Events = 2% deduction 61+ Events = 3% deduction

5.2.1 Work Area/Floor Checks

The surveillance team members will make a physical inspection of the Contractor's onsite work semi-annually. In addition, the COR may make informal inspections, as required. These inspections are made to assure compliance with NASA AFRC regulations regarding:

a. All Contractor employees have an AFRC identification badge.

b. The total number of Contractor employees provided onsite office space.

c. The Contractor knows who the building's Facilities Operation Manager (FOM) is, and what his/her functions are.

d. The Contractor is familiar with the building emergency evacuation procedures.

e. The Contractor employees are aware that work area checks may be conducted at any time.

f. The Contractor is familiar with NASA and AFRC Policy Directives and Procedural Requirements as it pertains to ANSI/ISO/ASQ Q9001 or AS 9100 governing onsite performance. These procedures can be accessed via the following NASA Online Directive Information System Website: https://odie.ndc.nasa.gov/SitePages/Home.aspx

g. The Contractor is aware of the appropriate protection procedures for handling Government planning data, private medical information, Sensitive But Unclassified (SBU) data, and other Contractor confidential or financial data.

h. The Contractor employees are aware that the use of Government telephones is for official business only.

i. The Contractor employees are following the proper Checkout Procedures when out processing from AFRC (e.g., returning PIV card (badges)).

j. The Contractor employees are aware of the AFRC IT Security compliance requirements.

k. The Contractor employees are aware of the Contractor's Organizational Conflict of Interest Plan and the appropriate Non-Disclosures.

In addition to checking conformance with NASA AFRC regulations listed above, the COR may make periodic checks of the Contractor's workspace to assess adequacy of facilities, equipment, and materials.

5.2.2 Work Review and Performance Monitoring

The COR, with the assistance of the TMs, will perform the following functions to evaluate the Contractor's performance:

a. Reviews the Contractor's monthly Progress Report for accuracy and completeness. Consult with TM, as necessary, to assess the fidelity of reports.

b. Meets monthly, or more often if required, with the Contractor's Program Manager/Site Manager to discuss overall management and performance, and review staffing and schedule issues.

c. Certifies the Contractor's invoices for payment in accordance with AFRC procedures.

d. In the event of a discrepancy in the Contractor's performance, the COR promptly notifies both the CO and the Contractor's Program Manager and arranges a meeting to rectify the situation.

5.2.3 Government Property Administration

The COR will carry out the following functions.

a. Validate that all Installation-Accountable Government Property (IAGP) is being properly utilized and maintained.

b. Conduct periodic inspection of equipment and its location, compared to the data on the property records.

c. Validate that all existing and new equipment is properly tagged.

d. Validate that Government property is made available in accordance with the terms of the contract.

e. Validate that the Contractor does not modify or provide additional facilities, plant equipment, or real property at NASA AFRC, except as specifically required by the contract, or as directed or approved in writing by the CO.

5.2.4 Performance Monitoring

The COR will ensure that employer–employee relationships do not occur between Government and Contractor personnel. This is achieved if the following is adhered to:

a. Only the Contractor interviews prospective employees.

b. Only the Contractor's Program Manager assigns work directly to the employees.

c. Only the Contractor approves timecards and absences.

d. Government personnel do not interfere with the Contractor regarding personnel and administrative activities.

e. Government Physician will not be the supervising Physician (Physician of Record) for the Contractor Nurse Practitioner (NP) or Physician Assistant (PA).

5.2.5 Safety

The responsibility for meeting all safety requirements rests with the Contractor. Surveillance team safety engineers and technical personnel will review Contractor-generated hazard analyses,

safety compliance data packages or other safety-related documentation, as appropriate, to help ensure all safety requirements have been satisfied. Surveillance team personnel will also maintain insight into the Contractor's safety activities through the review of the Contractor's submitted Safety, Health and Environmental Management Plan (SHEMP), and updates, as required by this contract.

6.0 SUMMARY

This QASP describes the approach AFRC intends to use to monitor the OHS contract and assure that the Contractor performs in accordance with the terms and conditions of the contract. AFRC anticipates using an insight surveillance approach. The goal is to balance the level of Government surveillance with the perceived impacts and risks of mission failure.

Quality Assurance Office Signature — Date: 4/21/15

Contracting Officer's Representative Signature — Date: 4/21/2015

Contracting Officer Signature — Date: 4/21/2015

APPENDIX A –CONTRACT SURVEILLANCE REPORT

CONTRACT SURVEILLANCE REPORT			
(If more space is needed, use reverse and identify by number)			
1. CONTRACT/TASK ORDER NUMBER	**2.CONTRACTOR**	**3. AREA OF REVIEW/DATE**	
4. QAS/COR/TASK MONITOR/REVIEWER, PRINT NAME & SIGNATURE		**5. PHONE**	**6. RATING** **Acceptable** **Unacceptable**
I. PERFORMANCE			
7. DEFICIENCY (CHECK ALL BOXES THAT APPLY) **NEW _____** **REPEAT _____** **NO DEFICIENCY NOTED _____**	**8. SOW PARAGRAPH ITEM REVIEWED**		
9. BRIEF DESCRIPTION OF DEFICIENCY (IF DEFICIENCY BOX WAS CHECKED)			
II. CONTRACTOR VALIDATION			
11. CONTRACTOR REPRESENTATIVE **CONCUR_____** **NON-CONCUR_____**	**12. CORRECTIVE ACTION ESTIMATED COMPLETION DATE**		
13. CONTRACTOR REPRESENTATIVE CORRECTIVE ACTION AND PREVENTION OF RECURRENCE <u>OR</u> REASON FOR NON-CONCURRENCE OF QAS CITED DEFICIENCY			
III. ACTION CORRECTED			
14. CONCUR NON-CONCUR QAS/COR/TASK MONITOR/REVIEWER SIGNATURE AND DATE			
15. QAS/COR/TASK MONITOR/REVIEWER REMARKS (REQUIRED)			
16. CONTRACTOR REPRESENTATIVE REMARKS			
NOTE: After completion of report, send report and comments to the Contract COR			