ATTACHMENT J-01

PERFORMANCE WORK STATEMENT

FOR

KENNEDY ENVIRONMENTAL AND MEDICAL CONTRACT (KEMCON)

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INTRODUCTION

This Performance Work Statement (PWS) describes the services to be provided by the Kennedy Environmental and Medical Contract (KEMCON) Contractor (hereinafter referred to as “the Contractor”). The Contractor shall provide non-personal technical services to the Government. Services under this contract will be provided to the National Aeronautics and Space Administration (NASA) at Kennedy Space Center (KSC) and the United States Air Force (USAF) at Cape Canaveral Air Force Station (CCAFS) and Patrick Air Force Base (PAFB). The Contractor shall support work requests from NASA-KSC civil servant organizations and NASA-KSC resident contractors (hereinafter referred to together as “KSC Organizations”). The Contractor shall support USAF contractors and tenants as directed by the USAF.

The work to be performed under this contract includes:

- Medical clinic operations
- Emergency medical services
- Aerospace medicine support
- Fitness Center operation and musculoskeletal rehabilitation services
- Clinical laboratory services
- Biomedical studies support
- Environmental health services (industrial hygiene and health physics)
- Public health and sanitation services
- Environmental services
- Hazardous waste processing
- Ecological monitoring program services
- Earth Systems Modeling and Data Management operations
- Agency support for recycling and sustainable acquisition

1.0 PROJECT/PROGRAM MANAGEMENT

1.1 General Management and Control

The Contractor shall institute and maintain an effective, efficient, and responsive program management organization that is responsible for oversight of KEMCON Contractor personnel, other contract resources, contract performance, deliverables, and cost. The Contractor shall notify the Contracting Officer's Representative (COR) and Contracting Officer (CO) of any problems that may adversely impact the timely and cost-effective delivery of quality products and services under this contract. The Contractor shall:

a. Interact, plan, and effectively coordinate and communicate with all levels of customers, both Government and contractors;

b. Institute an on-site centralized program management office and a single set of consolidated and easily understandable policies and procedures for the KEMCON;

c. Analyze applicable regulatory and statutory requirements and when necessary identify to the Government potential trade-offs with contract functions to ensure compliance. The Contractor shall notify the Government in writing within 3 work days of identifying the need for a trade-off necessity. The Government must provide the Contractor written direction on the implementation of any trade-offs prior to implementation;

d. Implement a customer-oriented management information system(s) (MIS) to provide work control and planning processes that shall be responsive and simultaneously support multiple customers having competing requirements and priorities. In an event those conflicts cannot be resolved, the CO and COR shall be consulted;

e. Conduct a contract review meeting on a semi-annual basis. The semi-annual review shall cover all aspects of the KEMCON operations, both technical and business, including a concise summary of performance and risk assessment in each major work element of the PWS in accordance with DRD 1.1-001, Performance Assessment Report.

1.2 Risk Management

The Contractor shall develop, implement, and update a Risk Management Plan as defined in DRD 1.2-001, Risk Management Plan, in accordance with NPR 8000.4, Agency Risk Management Procedural Requirements. The Risk Management Plan shall provide an organized, systematic risk informed decision making process that efficiently manages risk associated with the KEMCON at KSC.

The Contractor shall develop and implement management approaches, including the criteria, methods, and procedures for identifying, analyzing, planning, tracking, controlling, communicating, and documenting KEMCON-related risks associated with:

a. Contract Administration/Execution;

b. Performance of PWS Requirements;

c. Accomplishment of Task Orders.

1.3 Business Management

1.3.1 General Requirements

The Contractor shall perform all business and administrative functions and integrate these functions across all areas of performance. The Contractor shall:

a. Ensure contract and financial management requirements are accomplished and accounted for in accordance with applicable Federal and Agency procedures and regulations;

b. Include the integration of cost, technical performance, workforce, and schedule data for all areas of the contract, including task orders, in planning, tracking and reporting functions;

c. Provide ongoing business and procurement analysis and respond to requests and inquiries from the Government relating to budget, schedule, and cost performance;

d. Implement strategies to establish and sustain appropriate relations with labor unions while using prudent business practices to facilitate cross-utilization of the workforce.

1.3.2 Resource Management

The Contractor shall:

a. Recruit and maintain a skilled workforce to implement the requirements of this PWS;

b. Manage contract resources to maintain flexibility to respond to surge, one-of-kind, and unforeseen requirements, and coordinate with the Government to prioritize such requirements;

c. Apprise the CO and COR of any human resource issues that could have an impact on the ability to perform required elements of this contract;

d. Take a proactive management approach to labor relations involving collective bargaining agreements and participate in the KSC Labor Management Council;

e. Provide a copy of Collective Bargaining Agreements to the Labor Relations Officer and Contracting Officer within 30 days of ratification;

f. Manage compensation for all employees in accordance with the KEMCON Total Compensation Plan;

g. Comply with DRD1.3.2-001, Advance Notification of Workforce Reductions, when a workforce reduction is imminent;

h. Provide the following quarterly reports:

- DRD 1.3.2-002, Quarterly Contractor Workforce Report;
- DRD 1.3.2-003, Quarterly Summary of 3rd Step Grievances and Arbitrations Report.

1.3.3 Procurement Management

The Contractor shall:

a. Purchase goods and services necessary to accomplish work on the KEMCON in accordance with guidance of the Federal Acquisition Regulation (FAR) and the NASA FAR Supplement (NFS);

b. Develop and implement a comprehensive set of procedures covering all phases of the purchasing process and ensure integrity, efficiency, and protection of the government's resources in all purchasing actions;

c. Provide the CO with a monthly Purchase Order report in accordance with DRD 1.3.3-001, Purchase Order Report.

1.3.4 Performance Metrics and Work Load Indicators

The Contractor shall:

a. Monitor and track KEMCON performance for the standards listed in Attachment J-13, Performance Standards;

b. Assist the Government in development, maintenance, and analysis of objective, measurable performance metrics for the KEMCON contract;

c. Finalize DRD 1.3.4-001, Program and Performance Metrics Report, in coordination with the Government, within 180 days of contract award;

d. Report existing or potential performance issues along with recommended solutions during the execution of the KEMCON;

e. Report applicable workload indicators (WLI's) in accordance with DRD 1.3.4-002, Workload Indicators, Work Backlogs, and Deferred Work Report.

1.4 Financial Management

1.4.1 General Requirements

The Contractor shall:

a. Employ best business practices and sound financial management in the performance of financial management and reporting;

b. Provide on-going business analysis and respond to requests and inquiries from the Government relating to budget, schedule, and cost performance;

c. Develop, update, and implement a financial management process in compliance with FAR and NFS, Subpart 1842.72, NASA Contractor Financial Management Reporting;

d. Provide complete, accurate, and timely reporting of monthly and accumulated expenditures, projected costs, and workforce utilization;

e. Provide a recovery plan for any activity or project under their responsibility that is estimated to exceed established cost and/or scheduled plans;

f. Conduct monthly performance-to-plan reviews, including performance-to-negotiated estimated cost, to provide the Government with insight into the overall progress of the contractor, subcontractor(s), and vendors. These reviews shall include both formal and informal reviews with multiple customers requiring multiple products/reports, sometimes due concurrently.

1.4.2 Financial Management System

The Contractor shall:

a. Develop and maintain a financial management system with automated data transfer capability to capture costs incurred through the performance of the contract. The system shall be flexible to ensure compliance with the variety of cost charging and reporting requirements of the Government, based on customers and sources of funds;

b. Track expenditures and workforce utilization by Government-specified customers, work breakdown structure (WBS) down to the lowest level, unique project/activity/event identifiers (Job Order Number or equivalent), unique task identifiers (Work Order Numbers or equivalent), and elements of cost including labor hours, other direct costs, fringe, overhead, General and Administrative (G&A), fee, and Work Year Equivalents (WYEs) for both Contractor and Major Subcontractors;

c. Provide access to an automated, network accessible, ad hoc query capability to specific users, as identified by the Government, which provides actual and projected cost and labor hours at all levels collected by the Contractor. The level of detail shall mimic the level reported in the NASA Form 533 reports by WBS,

specific customers, unique projects, and individual task orders. The capability shall also provide multiyear budget forecast(s), Government Fiscal Year (GFY) operating plans, monthly plan versus actuals through estimate-to-complete, and monthly contract value. At a minimum, provide the ability to query by the following data fields across and combining multiple government fiscal years: charge date, facility number, customer number, WBS element, unique project and task identifiers, direct and indirect elements of costs, type or categories of work, and Government fiscal year. This capability shall be able to archive and reproduce all historical data for the duration of the contract with actual costs uploaded and available for viewing on a weekly basis;

d. Provide financial data as required to support multi-program budget schedules, to include but not limited to multi-year Planning, Programming, Budgeting, and Execution (PPBE) calls; annual operating plan calls; task orders; and special requests for budget impacts. The format and content of the Contractor's inputs and supporting rationale shall be in accordance with the budget or special request guidelines, as specified by the Government;

e. Develop, recommend and implement strategies for proper allocation of costs among all customers by PWS without the use of shared "cost pool" accounts;

f. Implement internal checks, balances, and audit steps to isolate and identify erroneous, incomplete data, duplicative data entry, and procedural deviations. Upon detection of significant errors, implement required corrective actions, and notify the Government per DRD 1.4.2-001, Reconciliation of Incurred Costs to Reported Costs Report;

g. Provide a cost correction (or error) tracking feature as part of the financial management system. Log entries individually, validate entries, correct errors, and show disposition of reported errors. The system shall be able to accept entries by the Government;

h. Develop and maintain the following financial DRDs. Ensure all DRDs are auditable and reconcilable to the Contractor's financial management systems:

- DRD 1.4.2-001, Reconciliation of Incurred Costs to Reported Costs Report
- DRD 1.4.2-002, Contractor Financial Management Analysis, NASA Form 533M and NASA Form 533Q Report
- DRD 1.4.2-003, NF533M Flat File
- DRD 1.4.2-004, Annual Phased Contract Operating Plan
- DRD 1.4.2-005, Rate-Volume Variance Analysis and Fund Source Explanation by Major Customer Report
- DRD 1.4.2-006, Direct and Indirect Rates Report
- DRD 1.4.2-007, Prime and Subcontractor Contract Value (CV) Status Report

- DRD 1.4.2-008 Phased Negotiated Estimated Cost (NEC) Baseline Report
- DRD 1.4.2-009, Annual IT NASA Headquarters and Special IT Budget Report
- DRD 1.4.2-010, Biennial Geographical Economic Impact Report

1.5 Information Management

1.5.1 General Requirements

The Contractor shall implement a comprehensive Information Management approach to provide MIS(s) that provide timely and accurate visibility of contract work progress reports to the Government and allow insight into the various customers requesting services in this PWS. The Contractor shall use existing Government-furnished legacy IT applications, as defined in Section J, Attachment J-16, Government-Furnished Legacy IT Systems, to perform contract requirements unless otherwise stated in the PWS.

The Contractor shall plan, schedule, integrate, approve, document, track, and monitor KEMCON activities throughout, and as specifically described in the PWS, using one or more MIS capabilities. Example activities include medical physicals, environmental health scheduling and work control, hazard assessments, hazardous waste pickups, and environmental sampling events.

The Government will provide “Infrastructure as a Service” and “Platform as a Service” as identified in Section J, Attachment J-06, Government-Furnished Services for all KEMCON data center needs. The Government will provide “Software as a Service” as identified in Section J, Attachment J-06, Government-Furnished Services for all IT systems. The KEMCON Contractor is responsible for maintaining any Contractor-provided IT systems used to perform KEMCON requirements.

The Contractor shall:

a. Provide access to and use of MIS applications for Government and Government-designated personnel. The Contractor shall ensure that the MIS will accommodate customer interfaces as required (example USAF), unless an exception has been granted by the Government;

b. Perform continuous assessment of MIS performance and architecture to ensure efficiency and performance. The Contractor shall provide recommendations for changes to Legacy IT systems that would improve KEMCON operations. The Contractor shall develop a Government-approved process for approving modifications to Contractor-provided MIS;

c. Develop and maintain documentation that reflects the configuration of the Contractor’s MIS architecture, including Contractor-provided and Government-furnished applications;

d. Interface with the Government-provided help desk operated by the Institutional Services Contract (ISC). Accept work referrals, and provide status or close out

information on work requests generated by that centralized activity. The Contractor shall work with the centralized help desk provider to develop processes for receipt and disposition of work requests, 24 hours per day, 7 days per week.

1.5.2 Information Technology

For requirements within this PWS that utilize Information Technology (IT) systems not provided by the Government, the Contractor shall provide the IT systems and tools necessary, including hardware, operating systems, application software, firmware, displays, databases and data storage systems. (Government-provided IT systems are listed in Attachment J-04, Contractor-Accountable Government-Furnished Property; Attachment J-05, Installation-Accountable Government-Furnished Property; Attachment J-06, Government-Furnished Services; and Attachment J-16, Government-Furnished Legacy IT Systems).

The KEMCON Contractor shall provide subject matter expertise and support for activities such as input to requirements collection and acceptance testing of Government-furnished legacy IT systems and applications.

All applications provided or developed by the Contractor shall follow NPR 7150.2, NASA Software Engineering Requirements and KNPR 8750.1, Software Assurance Procedural Requirements.

1.5.3 Administrative and Engineering Desktops

The Government will provide administrative and engineering desktops, workstations, and laptops for performance of this contract as listed in Section J, Attachment J-06, Government-Furnished Services.

1.5.4 Legacy IT Systems

Legacy IT hardware, software and data that are necessary to perform contract requirements are defined in Section J, Attachment J-16, Government-Furnished Legacy IT Systems. When defined in the PWS, the Contractor can transition the systems, software and data, into a Contractor-provided system. For those systems the Contractor elects to provide, the Contractor shall develop a Government-approved Legacy IT Systems Transition Plan, including an implementation schedule and business justification, within 1 month of contract start. The Contractor shall implement the plan and complete all transition activities no later than 9 months after contract start. The Contractor shall utilize the Government-furnished legacy application until a complete transition is made and accepted as complete by the Government.

1.5.5 IT Security Compliance

The Government will be responsible for all necessary actions to achieve IT security compliance for Government-furnished IT services and applications. The Contractor shall be responsible for ensuring IT Security compliance for all Contractor-provided IT

systems. The Contractor shall provide a technical point of contact for IT security to the Government. The Contractor shall maintain an IT Security Plan and Documents in accordance with DRD 1.5.5-001, IT Security Management Plan, and DRD 1.5.5-002, IT System Security Documents.

The Contractor shall implement appropriate operational and technical IT security policies, procedures, and controls for all services the Contractor provides to the Government. For each of these services, the Contractor shall integrate the IT security policies, procedures, and control measures into their full life cycle, and shall test and annually review these policies, procedures, and controls for adequacy and compliance. The Contractor shall comply with NPR 2810.1, Security of Information Technology; NPR 1382.1, NASA Privacy Procedural Requirements; and ITS-HBKs, IT Security Handbooks.

1.5.6 Documentation, References, and Records Management

The Contractor shall maintain accurate and complete records of Government business in accordance with the latest editions of NPD 1440.6, NASA Records Management Program, NPR 1441.1, NASA Records Retention Schedules, and KNPR 1440.6, KSC Records Management. This includes legacy Federal records (data created for Government use and delivered to or falling under the legal control of the Government) inherited from previous contracts and Government-owned, Contractor-held electronic and vital records. Records of Government business shall be segregated from company-owned records and from non-record materials. The Contractor shall:

a. Operate and maintain an electronic archive of all reports, surveys, analysis, inspections, and other contract activities conducted on behalf of the Government;

b. Maintain internal document records of all administrative and operational procedures such as records of employee certification and training, clinic certifications, reports, and other auditable activities;

c. Maintain a records management program and submit a records management plan in accordance with DRD 1.5.6-001, Records Management Program Plan;

d. Submit a file plan and an annual report to the Center Records Manager in accordance with DRD 1.5.6-002, File Plan and Summary of Record Holdings and Transfers Report;

e. Provide the Government access to Government records in accordance with FAR Subpart 4.7;

f. Deliver Government-owned data to NASA or its designees, including successor contractors, at the completion or termination of this contract;

g. Prevent the unauthorized destruction of records and do not dispose of records without the prior written consent of the CO.

1.6 Logistics

The Contractor shall perform standard logistics operations functions to include property management, receiving and inspection, inventory management, and shipping for KEMCON operations.

1.6.1 Material Management

The Contractor shall:

a. Perform material management activities including procurement, receiving, packaging, handling, storage, inventory management, and issuance in support of KEMCON operations;

b. Implement an inventory recordkeeping system deemed adequate by NASA Property Administrators. Provide regular, detailed reports of inventory holdings, in a format acceptable to the Government;

c. Perform packing, packaging, marking, labeling, and crating in accordance with applicable Federal regulations, standards, and specifications as well as KNPR 6000.1, Transportation Support System Manual;

d. Obtain all necessary office supplies in the performance of this contract, such as binders, paper, pens, and pencils in compliance with the Federal Strategic Sourcing Initiative. Office supplies shall, when appropriate, consist of recycled content and maximize the use of National Industries for the Blind and SourceAmerica® products.

1.6.2 Property Control

The Contractor shall properly control, use, and maintain Government-furnished property provided to support the KEMCON operations. The Contractor shall:

a. Assess, recommend, and purchase property necessary for maintaining successful day-to-day contract operations;

b. Manage KEMCON property, including equipment management responsibilities (such as equipment accountability and custodian delegation) and physical inventory responsibilities in accordance with KNPR 4000.1, Supply and Equipment Systems Manual. The Government will provide bar code scanners, NASA Equipment Control Number tags, and decals required for control of property;

c. Input and track Installation-Accountable Government-furnished Property (applicable to NFS 1852.245-71) in the NASA Property Management System and Contractor-Accountable Government-furnished Property (applicable to FAR 52.245-1) in the Contractor's property management system;

d. Identify excess assets and coordinate with the Government to initiate redistribution, utilization and excess functions in accordance with NPR 4300.1,

NASA Personal Property Disposal Procedural Requirements, and KDP-KSC-P-3716, KSC Personal Property Transfer/Excess Process;

e. Submit to the Government a monthly asset capitalization report in accordance with DRD 1.6.2-001, Asset Capitalization Report.

1.6.3 Motor Vehicle Utilization

The Contractor shall:

a. Perform vehicle management functions in accordance with NPR 6200.1, NASA Transportation and General Traffic Management; NPD 6000.1, Transportation Management; KNPR 6000.1, Transportation Support System; the Fleet Management Handbook; Executive Order (EO) 13423, Strengthening Federal, Environmental, Energy, and Transportation Management; and EO 13515, Federal Leadership in Environmental, Energy, and Economic Performance;

b. Furnish all general purpose vehicles in support of contract requirements. At the discretion of the Contractor, GSA schedules may be utilized to satisfy the requirements for motor vehicles;

c. Utilize the KSC on-site fueling stations for fueling general purpose vehicles and government furnished vehicles;

d. Ensure that all drivers have proper state licenses, with the applicable endorsements, for requisite equipment being operated;

e. Enter vehicle maintenance data into the Government-provided Fleet Management System, a web-enabled application (Note: There is not a Government furnished facility for maintaining the general purpose vehicles);

f. Document utilization of Contractor-acquired or leased and NASA-owned vehicles in accordance with DRD 1.6.3-001, Motor Vehicle Utilization Plan and Reports.

1.6.4 Export Control

The Contractor shall:

a. Implement an Export Control Program to assure compliance to the International Trade in Arms Regulations and the Export Administration Regulations;

b. Identify an Export Control Official responsible for the implementation of the program and to coordinate issues with the Center Export Administrator;

c. Document the KEMCON Export Control Plan in accordance with DRD 1.6.4-001, Export Control Plan;

d. Adhere to the policy and guidance set forth in NPD 2190.1, NASA Export Control Program, NPR 2190.1, NASA Export Control Program, and KDP-KSC-P-2613, KSC Export Control Process;

1.6.5 Facilities

The Contractor shall:

a. Operate facilities as defined in this PWS and described in Section J, Attachment J-07, Government-Furnished Facilities;

b. Assist the Government in management and oversight of the facilities assigned under this contract;

c. Identify and track facility requirements, request facility services and repairs from the Government, inspect assigned facilities, and institute protective actions for the prevention of damage, such as hurricane preparedness;

d. Utilize the Government-furnished services listed in Section J, Attachment J-06, Government-Furnished Services.

1.7 Safety, Health, and Environment

The Contractor shall ensure that the safety of its personnel, other on-site personnel, and public visitors to KSC are of primary importance, and that Government property and the environment are protected from damage.

1.7.1 Safety and Health Plan

The Contractor shall submit and manage to a current, detailed Safety and Health Plan in accordance with DRD 1.7.1-001, Safety and Health Plan. The plan shall describe the KEMCON policies, procedures, and approaches used to ensure the safety and occupational health of its employees, to ensure the safety of their operations, and to protect property. The plan shall discuss the flow down of the Contractor's Safety Program to its sub-contracted activities.

1.7.2 Safety and Health Compliance

The Contractor shall:

a. Comply with all applicable Federal, state, and local laws and regulations, as well as NASA policies, procedures, and guidelines. The Contractor's Safety and Health Program shall be fully documented and auditable and the Contractor shall participate in Government audit and surveillance activities of their plans, procedures, and processes when deemed necessary by the Government;

b. Conduct safety and health inspections of all Contractor-occupied facilities on a quarterly basis. The inspections shall be formally documented and all findings tracked to closure. Qualified safety and health professional(s) (as defined in 29 CFR§1960, Basic Program Elements for Federal Employee Occupational Safety and Health Program) shall perform inspections at least annually. The Contractor's internal assessments, results, and surveillance activities shall be made available and auditable by the Government;

c. Assist NASA, or its representatives, in examination of sites or areas where work under the KEMCON is being performed in order to determine the adequacy of the Safety and Health Program;

d. Ensure equipment owned, leased, rented, or obtained from off-site locations is properly assembled, maintained, and safe for use by the KEMCON;

e. In the event of a Program or Center incident or contingency, support any Government investigation and make available all pertinent documentation as requested;

f. Submit a monthly Safety Statistics Record, in accordance with DRD, 1.7.2-001, Safety Statistics Report, and utilize the Government-provided Agency automated data system for mishap reporting for entering accident and incident information;

g. Report all injuries, damage, and close calls resulting from Contractor activities. The Contractor shall develop, implement, and maintain a process(es) for reporting, responding to and investigating mishaps in accordance with KNPR 8715.3 Vol. 1, KSC Safety Practices Procedural Requirements. The Contractor, for Government-led or independent Government investigations, shall provide the Government access to the mishap site, personnel, and documentation as requested. The Contractor shall allow the Government to participate on or observe KEMCON Contractor-led investigation boards. The Contractor shall electronically enter all mishaps meeting the criteria for Type A through Type D mishaps as defined in KNPR 8715.3 Vol. 1, KSC Safety Practices Procedural Requirements, into the Agency automated data system for mishap reporting. All close calls with the potential to have been Type A through Type D mishaps shall also be entered. Mishap reporting methods and timelines shall be in accordance with DRD 1.7.2-002, Safety Anomaly Report;

h. In the event the Contractor determines the need to deviate from a Government requirement, a formal request must be processed through the appropriate variance review and approval system. The Contractor shall perform risk assessments for all variances requested to safety procedures and processes. The risk assessment shall be performed to assure the safety of personnel and equipment is not compromised, and alternate work procedures, as a result of a variance, shall be evaluated prior to implementation.

i. Support the Occupational Safety and Health Cooperative Committee.

1.7.3 Voluntary Protection Program Support

NASA-KSC and some of its contractors are participants in the OSHA Voluntary Protection Program (VPP). It is expected that continued participation by the Government in the VPP process will require the KEMCON Contractor to support that VPP effort with medical, environmental health, and environmental services, as required. For example, OSHA may, in the course of reviewing NASA's VPP qualifications, need to review clinic medical procedures and review industrial hygiene surveys conducted

under the KEMCON. The Contractor shall support NASA's VPP readiness efforts and on-site VPP reviews.

1.7.4 Operational Safety Assessments and Hazard Analysis

The Contractor shall develop and implement a process for assessing and managing hazards associated with their activities. The process shall provide for appropriate hazardous operation surveillance, review of hazardous procedures, and assessment of risks associated with deviations from procedures or safety and health requirements.

The Contractor shall complete a hazard analysis and risk assessment for all Contractor-controlled operations and determine appropriate hazard mitigations required to safely perform the work. All personnel engaged in potentially hazardous operations shall be provided appropriate training on hazards and hazard mitigations. All employees shall be trained and/or maintain certification per the requirements outlined in specific government standards/requirements.

The Contractor shall conduct and document an operational safety assessment of all high-risk, first-time operations and make those assessments available to the Government for review.

1.7.5 Emergency Preparedness and Response

The Contractor shall support the resolution of unusual or emergency situations. The Contractor may be required to assist the Government, within the general scope of work but in currently unidentified ways in preparation for or in response to emergencies. Obligations under this requirement shall only arise when one or more of the criteria at FAR 18.001, enabling NASA to utilize "Emergency Acquisition Flexibilities," are met.

1.7.6 Transportation Safety

All motor vehicles (e.g., cars, trucks, vans, boats, all-terrain vehicles) used for transportation of personnel or hazardous material shall comply with laws regarding inspections and markings and must have passed an inspection to ensure that the vehicle is in safe mechanical operating condition. Maintenance on vehicles shall be met according to all Federal and state laws, and maintenance records shall be maintained and available for audit. The mode of transportation shall be inspected to the applicable standards of the Federal Highway Administration, U.S. Coast Guard, and Department of Transportation (DOT). All vehicles transporting hazardous materials on government and public roadways shall display all DOT required placards, lettering, or numbering. All personnel operating such vehicles shall receive the appropriate training and or licensing as required in 49 CFR to include dangerous goods certification.

1.7.7 Environmental Management

The Contractor's operations and facilities shall comply with applicable NASA Headquarters directives in accordance with NPD 8500.1, NASA Environmental Management, and NPR 8570.1, Energy Efficiency and Water Conservation, and

Federal, state, and local environmental laws, regulations, and EOs. The Contractor shall meet KSC environmental requirements in accordance with KNPR 8500.1, KSC Environmental Requirements, for KEMCON operations. The Contractor shall meet NASA's Sustainable Acquisition Program for KEMCON procurements in accordance with NPR 8530.1, Affirmative Procurement Program and Plan for Environmentally Preferable Products.

The Contractor shall:

a. Support KSC's Sustainable Environment Management System (SEMS) in accordance with KNPR 8553.1, NASA Kennedy Space Center Sustainable Environment Management System. Such support shall include conducting operations consistent with KSC SEMS environmental management program objectives and targets, responding to information requests, attendance at SEMS team meetings and participation in internal and external SEMS audits of KEMCON operations;

b. Allow NASA environmental personnel full access to conduct internal inspections of all KEMCON facilities, systems, materials, records, and wastes for compliance with environmental laws, regulations, and permits. The Contractor shall immediately correct any violations, findings, or deficiencies identified in the inspection;

c. Identify, interpret, and apply new and existing environmental requirements with respect to KEMCON operations and report potential impacts to the government;

d. Provide chemical usage and storage records for each calendar year. The Contractor shall respond to data calls from the Government. The Contractor shall input the data into electronic databases, spreadsheets, or other formats provided by the Government;

e. Incorporate sustainable elements and practices in operations in accordance with EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management, and EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance, including areas of energy efficiency, use of renewable energy, reduction in water consumption intensity, acquisition of green products and services, pollution prevention, waste prevention, recycling and waste diversion, use of alternative fuel vehicles, and alternative fuels and electronic stewardship. The Contractor shall provide sustainable practices data for each fiscal year as required by the Government.

1.8 Quality

1.8.1 Quality Assurance

The Contractor shall establish, document, implement, and maintain a quality assurance program for the evaluation of its internal processes, controls, metrics, and procedures.

The Contractor shall be compliant with ANSI/ASQC/ISO 9001, Quality Management System Requirements, within 12 months of the contract start date.

The Contractor shall develop a process to ensure compliance or consistency, as appropriate, with the latest revisions of documents identified in Section J, Attachment J-08, KEMCON Compliance Document List, throughout the contract performance period.

1.8.2 Training, Certification, and Licensure

Each professional and technical member of the Contractor's staff shall possess an academic degree in the discipline or an equivalent combination of education and experience suitable to the responsibilities of their position. The Contractor shall provide and adhere to a plan to ensure personnel are provided with the technical and professional training necessary for obtaining and maintaining professional development, certifications, and licensure. It is the expectation of the Government that the Contractor's training plan will include elements for the professional development of all staff. The Contractor shall collect, maintain, and make available to the Government current data for all required certifications in accordance with DRD 1.8.2-001, Certifications and Licensure Report. The Contractor shall ensure that there are no violations resulting from lapses in required personnel certifications/training. (Note: KSC area access training will be provided by the Government.)

2.0 MEDICAL SERVICES

2.1 Administration and General Requirements

The Contractor shall provide comprehensive medical services to maintain a healthful and productive workforce. The Contractor shall:

a. Provide medical services to all NASA-KSC civil servant, NASA-KSC resident contractor personnel, NASA-KSC guests, KSC Visitors Complex (KSCVC) visitors, specified personnel described in specific paragraphs below, and NASA civil servant tenant personnel resident at KSC and CCAFS;

b. Provide the administrative and technical operations and management of Occupational Medicine (OM) functions, as specified in KNPD 1810.1, KSC Occupational Medicine Program;

c. Provide administrative support for medical services through the use of a health information management system that supports physical examination management, patient scheduling and notification, reception desk operations, and records management with the capability for statistical and analytical data collection and retention. The Contractor may use the existing Legacy System, the Health Unit Management System (HUMS) described in Section J, Attachment J-16, Government-Furnished Legacy IT Systems. Legacy system transition requirements are defined in Section 1.5.4 of this PWS. The Contractor's health information management system shall:

   - Interface with the NASA Training System for the automatic upload of medical certification data;
   - Interface with the Worker's Health at a Glance (WHAAG) application that tracks hazard inventories and employee exposure records, identified in PWS Section 3.1;
   - Ensure the portability of any medical data to allow its transfer to other systems if required by the Government.

d. Provide required data to the Agency Electronic Health Record System, managed by the Agency Occupational Health Program contractor;

e. Develop, maintain, and implement a Medical Quality Assurance Program which evaluates all aspects of medical care provided in compliance with NPR 1800.1, NASA Occupational Health Program. Provide a Medical Quality Assurance Program Plan in accordance with DRD 2.1-001, Medical Quality Assurance Program Plan;

f. Comply with requirements of the Health Information Portability and Accountability Act (HIPAA).

2.2 Training, Certifications, and Licensure

Medical services shall be performed by certified/licensed medical staff. The following section establishes the KEMCON training, certification, and licensure requirements for any medical staff utilized for medical services. This section is not meant to define the staffing types required, only to define the requirements should the Contractor choose to employ the following staffing types.

a. OM services shall be under the management of a Medical Director, who shall be a physician. The Medical Director shall be board certified in a preventive medicine or a primary care specialty;

b. Other physicians providing OM services shall be board certified in or have completed residency in either a preventive medicine or primary care specialty; or have completed residency training in a non-preventive medicine or non-primary care specialty and have a minimum of 2 years' experience in OM or other preventive or primary care field. Board certification in OM is preferred. All board certifications must be provided by a board certifying entity in the United States. All physicians providing OM services shall maintain a state of Florida Medical license;

c. At least one KEMCON physician shall have proficiency in stress test interpretation and reading electrocardiograms;

d. Physicians shall maintain current American Heart Association (AHA) Basic Cardiac Life Support (BCLS) Course C, AHA Advanced Cardiac Life Support (ACLS) provider, and Advanced Trauma Life Support (ATLS) certifications;

e. Nurses providing OM services shall be Registered Nurses and maintain current state of Florida licenses, and shall maintain current AHA BCLS Course C and ACLS provider certifications, and obtain certification in Occupational Health Nursing within 2 years of becoming eligible by criteria established by the American Board of Occupational Health Nurses;

f. Nurse Practitioners providing OM services shall maintain current state of Florida licenses, and shall maintain the same certifications as required for staff nurses providing OM services;

g. Physician Assistants providing OM services shall maintain current state of Florida Physician Assistant licenses. Previous experience in OM is preferred;

h. Emergency Medical Technicians (EMT) shall maintain current state of Florida certifications as an EMT and maintain current AHA BCLS;

i. Radiological-Laboratory Technologists shall maintain current state of Florida licensure;

j. Employee Assistance Program Counselors shall possess a Master's Degree in Social Sciences, Psychology, Social Work, Mental Health Counseling, or a

related field, or the equivalent education/experience; and achieve EAP certification within 1 year after becoming eligible;

k. Physicians providing Aerospace Medicine (AsM) shall be board certified in or have completed residency in either a preventive medicine or primary care specialty or have completed residency training in a non-preventive medicine; or have completed residency training in a non-primary care specialty and have a minimum of 2 years' experience in AsM or other preventive or primary care field. Board certification in AsM is preferred. All Board certifications must be provided by a board certifying entity in the United States. All physicians providing AsM services shall meet all state of Florida licensing requirements and be licensed in a U.S. State or Territory;

l. All nurses providing AsM services shall be Registered Nurses and maintain current state of Florida licenses, and shall maintain current AHA BCLS Course C and ACLS provider certifications;

m. Nurse Practitioners providing AsM services shall meet the same certifications as required for nurses providing AsM services;

n. Athletic Trainers supporting the Musculoskeletal Rehabilitation Services shall be certified by the National Athletic Trainers Association and Licensed by the state of Florida.

2.3 NASA KSC Occupational Medicine

2.3.1 Occupational Medicine Services

The Contractor shall provide comprehensive OM Services designed to enhance the health and well-being of the work force.

The Contractor shall:

a. Provide health examinations at the Occupational Health Facility (OHF), Building M6-495. Health examinations shall be administered in accordance with KSC-UG-1800, John F. Kennedy Space Center (KSC) Medical Standards User Guide and are required to satisfy various programs such as the Federal Employee Health Program (FEHP) and OSHA standards;

b. In coordination with the NASA-KSC medical officers, develop and maintain NASA-KSC health examination classifications in accordance with current NASA-KSC health examination classification standards (see KSC-UG-1800, John F. Kennedy Space Center (KSC) Medical Standards User Guide);

c. Operate the OHF from 7 am to 3:30 pm, 5 days per week, Monday through Friday, except KEMCON Contractor holidays and the First Aid Station at the KSCVC for one 10-hour shift per day during the open hours of the KSCVC, or as otherwise agreed to with the KSCVC. A physician shall be present at the OHF during all hours of normal operations. A physician shall be on-call 24 hours a

day, 7 days a week, to respond to and/or advise on any emergencies or contingencies that may arise at KSC;

d. Evaluate, treat, and provide appropriate recommendations for disposition of all occupational injuries and illnesses;

e. Provide Workers' Compensation Program medical case management for NASA civil servants that are permanently assigned, or while on temporary assignment to KSC/CCAFS, to ensure injured workers receive appropriate medical services as quickly as possible in order to reduce time lost from work, including, if necessary, limited duty recommendations;

f. Provide a registered nurse to support visitor and employee activities at the KSCVC. This nursing support shall operate under the direction of the Contractor Medical Director and by protocols established by the Contractor medical department and shall provide evaluation of medical problems and treatment/disposition of minor medical problems for visitors at the KSCVC. The nursing support shall also provide OM services to the KSCVC employees at levels comparable to that provided by nurses at the OHF. The nurses shall also provide OM consultative services to the KSCVC management;

g. Identify trends associated with all injuries or illnesses that may be related to the work environment, investigate those trends, and recommend actions required for prevention;

h. Evaluate any patient presenting with minor non-occupational illnesses and injuries. If the diagnosis is apparent and minimal treatment without release from work is appropriate, requiring no follow-up, then treatment shall be rendered and the individual returned to duty. If these conditions warrant diagnostic or consultative services beyond that available at the on-site medical facility, or if a private physician's services shall be necessary to ensure comprehensive evaluation and/or treatment following first care necessary for stabilization and transport, the individual shall be referred to the private physician rather than being given further treatment at the on-site medical facility;

i. Provide appropriate return to work clearance or duty limitations to patients and their employers;

j. Perform laboratory, x-ray, or other tests within the scope and capability of the on-site medical facility at the request of a private physician if the conditions under evaluation or treatment are job-related;

k. For non-occupational related illnesses or injuries, requests for laboratory or x-ray procedures that are received from private physicians shall only be conducted at the time of scheduled physical examinations and within the scope and capability of the clinic. Exceptions to this may be made for military and military reservists on active duty located at KSC and CCAFS who may come to the OM facilities instead of going to other U.S. Government medical facilities, where they are authorized full care. Other exceptions may include NASA retirees with medical

disabilities whose continued medical surveillance by NASA is requested by the Government;

l. Administer treatments, medications, or tests (such as shots, blood pressure checks, hormonal therapy, or other tests as directed by the Government) prescribed by the employee's private physician if these on-site activities enable the employee to remain at work for the balance of the normal work shift or are otherwise in the best interest of the Government. Services requested by the employee's private physician must be in writing. A Contractor physician shall evaluate and approve, as appropriate, the written request. The employee shall furnish any of the necessary medications and required specialized equipment;

m. Refer patients to their personal physician when significant abnormal conditions are discovered at the time of scheduled certification physical examinations or in the course of treatment for occupational illnesses or injuries, but which in themselves are not related to the patient's employment. Information on the evaluation and treatment shall be requested from the private physician to determine any effect on employment or need for work limitations;

n. Perform semi-annual Drug Enforcement Administration (DEA) classified controlled medication inventories in accordance with NPR 1800.1, NASA Occupational Health Program Procedures;

o. Supply medications, classified or not classified as controlled by the DEA, for the Astronaut Health Program for NASA flightcrew launch and landings;

p. Serve as the Automated External Defibrillator (AED) Program Coordinator (AED-PC) as per KNPR 1810.2, Occupational Medicine Program. The AED-PC shall be the Contractor Medical Director, or his/her delegate. The AED-PC shall be responsible for being the physician-of-record for the KSC AED Program and will assure training of all personnel designated as NASA/KSC AED providers or responders. The AED-PC shall monitor maintenance and quality assurance for NASA-KSC AED’s and evaluate, along with the Government, any deployment of a NASA-KSC AED;

q. Allow students participating in the KSC Medical Education Program to accompany KEMCON Contractor employees as they conduct their daily job duties;

r. Provide appropriate medical personnel to support visitor and employee activities at the KSCVC and KSC viewing sites on launch and landing days or during other times of increased activities at KSCVC, as directed by the Government. The Government may authorize this work through the issuance of a task order. These medical personnel shall provide evaluation of medical problems and treatment and disposition of minor medical problems for visitors at the KSCVC.

2.3.2 Preventive Services

The Contractor shall provide a preventive medicine program to promote, maintain, and improve the physical and psychological wellbeing of the worker in the work place. The Contractor shall:

a. Provide health maintenance examinations to NASA civil service employees. The scope and schedule of these FEHP examinations shall be in accordance with KSC-UG-1800, John F. Kennedy Space Center (KSC) Medical Standards User Guide. Examinations or reasonable tests, such as serum thyroid studies and lipoprotein fractionation, may be required by the Government for designated employees;

b. Provide annual physical examinations to civil service personnel assigned to tenant organizations at KSC, as identified by the Government, such as the National Park Service and Defense Contract Audit Agency. These physical examinations shall be completed according to the directives and benefits prescribed by their agency or department policies;

c. Provide OM support services to the KSC workforce for official travel to include:

   - Traveler briefings with up to date information on destination environmental issues and infectious outbreaks;
   - Travel related medical reviews prior to authorization of overseas travel to include: identifying the need for vaccinations (such as yellow fever), providing standard immunizations (such as tetanus-diphtheria; polio; measles, mumps, and rubella (MMR); hepatitis A and hepatitis B), reviewing and evaluating pre-existing medical conditions, personal medications, and destination medical capabilities;
   - Travel packets to employees traveling to overseas sites. Packets to contain some basic medical supplies, such as Tylenol, Band-Aids, antibiotic ointment, anti-diarrheal medication, allergy medication, throat lozenges, antacids, lip balm, and sunscreen;
   - Prescriptions for malaria medications for travel to those countries that the Centers for Disease Control recommends malaria prophylaxis. OM physicians shall discuss the need for malaria prophylaxis individually with the traveler and prescribe the most appropriate anti-malarial medication;
   - Information on other aspects of travel related medical concerns such as jet lag, stress, travelers' diarrhea, motion sickness, hypoxia, high altitude illness, decompression illness, and blood clots.

d. Provide a Health Education and Wellness Program in coordination with NASA-KSC medical officers, including:

   - Health Education Topics;
   - Medical Screening;

- Health Risk Reduction Counseling;
- Promotion of Healthful Lifestyles;
- Participation in Government-sanctioned health related support groups.

e. Provide on-site Health Training Programs for the KSC workforce to include, at a minimum, the following services:

- First aid for KSC job certification requirements;
- Job required BCLS, including cardiopulmonary resuscitation (CPR) and AED skills per American Heart Association National Standards;
- ACLS for physicians, nurses, and emergency service personnel in accordance with state and local governmental requirements;
- OSHA directed programs for physicians, nurses, and emergency service personnel and other health care providers, e.g., bloodborne pathogen training.

2.3.3 Occupational Medical Support to Non-KSC Sites

The Contractor shall also provide, as required by the Government, medical personnel and support to other NASA Centers following a disaster or contingency. Deployment and specific composition of the support teams shall be determined as directed by the Government on a case-by-case basis.

2.3.4 Employee Assistance Program Services

The Contractor shall provide counseling and intervention services as part of the KSC Employee Assistance Program (EAP), in accordance with KNPD 3792.1, KSC Employee Assistance Program (EAP) Policy. The Contractor shall provide EAP Counselors. It is the expectation of the Government that there will be more than one EAP Counselor due to the size of the KSC workforce. The EAP shall include services related to alcohol and drug abuse prevention. The EAP shall also focus on initial management training and education in the identification and treatment of employee stress including Critical Incident Stress Management (CISM) in accordance with KNPR 3792.1, Employee Assistance Program (EAP) Psychological Support Preparedness Plan in the Event of a Critical Incident. These shall be followed by emphasis on a consultation, evaluation and referral approach to the services provided. The Contractor shall coordinate with community health resources to maintain a KSC Disaster Mental Health Services Support Team in support of CISM activities.

2.4 Emergency Medical Services Medical Support

The Contractor shall:

a. Provide Medical Director services to oversee the emergency medical services response. Ambulance vehicles and their staffing will be Government furnished

(Note: The emergency medical technicians are part of the Kennedy Protective Services Contract);

b. Provide a physician to be available either on-site or on-call at all times;

c. Provide ambulance medications, supplies, and equipment;

d. Determine the ambulance service destination of any patient to either on-site medical facilities or to local hospitals. This determination shall be made by the on-site or on-call KEMCON Contractor physician or on-duty registered nurse in consultation with a physician but this determination can also be made by the responding ambulance personnel if the physician or nurse is not available with consideration to the seriousness of the patient illness or injury, closest appropriate facility, and patient request;

e. Coordinate with Fire Rescue Services provided by the Government in the provision of Triage Site and Transportation zone management and Triage Site treatment when a Triage Site is utilized for mass casualties or space vehicle contingencies;

f. Operate, manage, and staff with trained, certified personnel the KSC Triage Sites;

g. Operate and stock a Triage Vehicle capable of bringing basic emergency provisions to a contingency scene;

h. Coordinate with local medical resources in the event of mass casualties or operational contingencies;

i. Provide plans that provide for coordination of medical emergencies such as epidemics, pandemics, and mass casualty events;

j. Provide physician and nursing emergency medical services to include astronaut flight crew contingency care and first aid coverage for NASA guests and KSCVC visitors, during launch and landing operations;

k. Provide medical participation in KSC-medical contingency exercises and KSC-wide contingency exercises. Contingency exercise participation may require some or all of the items in this section.

2.5 Medical Consulting Services

The Contractor shall:

a. Provide consultation services to include evaluation of the workplace to make recommendations with regard to physical examination requirements for specific jobs or generic job categories based on assessment of the demands of the job and the environment in which it is accomplished. Such evaluations also address specific health and safety concerns of the Government and the Contractor that are unique to the job or work area and supplemented by environmental studies

accomplished by Environmental Health (EH) specialists to support appropriate OM recommendations;

b. Review policies, documents, plans, and procedures as directed by the Government;

c. Support the triennial Agency Occupational Health Program (OHP) review and intervening year annual self-review of the KSC OHP, and subsequent development of appropriate corrective action plans;

d. Support NASA-KSC medical reviews and audits of the KSC OHP;

e. Provide other OM services as required by applicable state and Federal laws and regulations.

2.6 Fitness Facility

The Contractor shall staff and operate the existing fitness facility at KSC. The hours of operation shall be Monday through Friday from 5:30 a.m. to 7 p.m., except KEMCON Contractor holidays and other periods as approved by the Government. The Contractor shall:

a. Manage and operate the fitness facility and equipment, provide recommendations for new or replacement equipment and provide routine equipment maintenance;

b. Monitor the clients using the equipment to assure proper use in order to minimize the possibility of injury to the users or damage to the equipment;

c. Provide fitness assessments to facility clients, advise clients on an appropriate exercise program to help them achieve their fitness goals, and provide clients periodic updates on their fitness levels;

d. Develop and institute a plan to assure personnel who use the fitness facilities meet the requirements established by the Government (e.g., medical authorization for use, after hours policy);

e. Provide and promote motivational programs to improve the health of the workforce and provide training classes in various exercise areas, such as aerobics, muscle strengthening, and special fitness (e.g., abdominal classes, upper body strength).

2.7 Musculoskeletal Rehabilitation Services

The Contractor shall provide a musculoskeletal rehabilitation program at KSC. The Contractor shall provide injury assessment and rehabilitation services in order to maximize long-term recovery and reduce lost work time. Treatment is provided for occupational and non-occupational related injuries. The Contractor shall:

a. Manage and operate the program's facilities and equipment, and provide maintenance of its related equipment;

b. Coordinate the program's activities and patient care with KSC OM and EH personnel, offsite health care providers, workers' compensation specialists, and the KSC fitness center to optimize injury reduction, injury rehabilitation, and return to work.

2.8 Clinical Laboratories

The Contractor shall provide College of American Pathologists (CAP) certified clinical medical laboratory services. Laboratory services shall be fully accredited/certified by the state of Florida and meet all regulatory format requirements. The Contractor shall:

a. Provide, at a minimum, on-site collection of medical samples, on-site laboratory services which are CLIA (Clinical Laboratory Improvement Amendments) exempt (such as urine dipstick or tablet urinalysis, fecal occult blood, blood glucose home monitoring devices); x-rays (interpreted by certified radiologist); and other tests as appropriate to support the OM and Preventive Health Programs;

b. Provide additional laboratory services, with a valid physician's prescription, to include: clotting factor studies (INR values), blood glucose (fasting blood sugar and glycosolated hemoglobin), and fasting lipid profiles;

c. Assure calibration and maintenance support for all on-site laboratory instrumentation in accordance with KNPR 8730.1, KSC Metrology and Calibration Procedural Requirements, and maintain calibration and maintenance records for each instrument. (Note: Per Attachment J-06, Government-Furnished Services, on-site calibration laboratory services are provided as a Government-furnished service to the KEMCON Contractor);

d. Provide laboratory support to NASA-KSC approved biomedical studies.

2.9 Aerospace Medicine Services

The Contractor shall assist the NASA medical officers in planning, developing, monitoring, and implementing Aerospace Medicine Services and the Health and Medical Technical Authority (HMTA). The Contractor shall:

a. Assist in spaceflight medical operations planning and document preparation, including the Medical Operations Support Implementation Plan (MOSIP), the Emergency Medical Services Plan, and mission specific medical spaceflight support packages. Review the Johnson Space Center Medical Operations Requirement Document (MORD) and ensure that the KSC MOSIP contains current MORD requirements in accordance with DRD 2.9-001, Aerospace Medicine Medical Quality Operations Support Plan;

b. Provide support to NASA flight crew operations, including launch activities;

c. Provide medical services, as needed, to the NASA astronauts at KSC;

d. Assist in HMTA activities such as review documents, attend meetings, and prepare presentations;

e. Allow students participating in the KSC Medical Education Program to accompany Contractor employees as they conduct their daily duties;

f. Provide expertise in grant identification, application, proposal writing and submittal.

2.10 Medical Services Task Order Content

The Contractor shall perform Indefinite Delivery/Indefinite Quantity (IDIQ) task order services for approved biomedical studies when directed by the Government. Task orders may include:

a. Expertise in grant identification, application, proposal writing and submittal;

b. Support in the planning, development, subject acquisition, subject qualification, test scheduling, and implementation of any NASA-KSC approved biomedical studies;

c. Support in data collection, medical monitoring, clinical sample collection and analysis, data analysis; and publication of any NASA-KSC approved biomedical studies;

d. Serving as a principal or co-investigator in support of approved biomedical studies at NASA-KSC.

3.0 ENVIRONMENTAL HEALTH SERVICES

3.1 Administration and General Requirements

The Contractor shall provide Environmental Health (EH) services to include Industrial Hygiene (IH), Health Physics (HP), Sanitation and Public Health, associated laboratory services, and operation of associated MIS.

EH services shall be provided on-site at KSC and at NASA work locations on CCAFS on first shift, excluding KEMCON Contractor holidays. The Contractor shall also respond to off-shift customer activities requiring KEMCON Contractor participation, to support scheduled operations and emergency response activities, within two hours from notification.

EH services shall include both recurring and nonrecurring tasks at NASA managed facilities at KSC. IH and HP tasks are also provided at local off-site locations and to NASA operations at Vandenberg Air Force Base, CA. as specified in the subsequent paragraphs.

The Contractor shall comply with KNPR 1820.3, KSC Hearing Loss Prevention, KNPR 1820.4, KSC Respiratory Protection, KNPR 1860.1, KSC Ionizing Radiation Protection, KNPR 1860.2 KSC Non-Ionizing Radiation Protection, KNPR 1870.1 KSC Sanitation Program, KNPD 1800.1 Environmental Health Program, KNPD 1860.1 KSC Radiation Protection; KNPR 1840.1, KSC Hazard Communication Program, and KNPR 1840.19 Industrial Hygiene Programs (Reference Section J, Attachment J-08, KEMCON Compliance Document List).

The Contractor shall:

a. Identify, evaluate, and recommend corrective actions for health hazards and non-compliance conditions. Analyze past data and perform trend analysis to develop exposure and hazard assessment strategies;

b. Work directly with customer organizations to develop work assignments and prioritize its resource allocation based on analysis of factors, such as hazards, operational/mission requirements, regulatory compliance, regulatory changes, and customer needs;

c. Ensure that reports to customers accurately describe the work performed, including observations, findings, and recommendations;

d. Maintain electronic records of all written products and administrative and operational procedures required for the implementation of EH functions such as internal operating procedures, reports, records of employee certification and training, fieldwork records, and other auditable activities;

e. Use the existing legacy systems, the Occupational Medicine and Environmental Health System (OMEHS) and the WHAAG, described in Section J, Attachment J-16, Government-Furnished Legacy IT Systems, to perform administrative

functions such as work control and corrective action tracking, and health records management such as hazard inventories and employee exposure records;

f. Develop and operate an internal EH Services website to provide customer review of IH, Sanitation and Public Health, and HP programs and services; online requests for hazard assessments; corrective action tracking; access to employee exposure monitoring records; access to Safety Data Sheets (SDS); and to provide an information resource on topical areas of EH such as heat illness prevention, to customer health and safety organizations and Center employees.

3.2 Training, Certifications, and Licensure

The Contractor shall ensure that personnel and subcontractors are properly trained, certified, and licensed and shall meet the following requirements:

a. Have at least one KEMCON Industrial hygienist(s) providing technical direction to staff certified by the American Board of Industrial Hygiene;

b. Have at least one Asbestos Consultant that is licensed in the state of Florida;

c. Industrial hygienists working under the direction of the licensed asbestos consultant shall meet the state of Florida asbestos training requirements;

d. IH staff members who oversee technical specialty program areas such as hearing conservation and ergonomics shall possess recognized technical certifications or a combination of five years of relevant education and experience for those areas of expertise;

e. Have at least one registered sanitarians accredited by the National Environmental Health Association.

f. Have at least one food safety specialist standardized according to the United States Food and Drug Administration (FDA) Procedures for Standardization of Retail Food Safety Inspection Officers;

g. Environmental Microbiology staff shall have a 4 year degree in a biological science, preferably in Microbiology;

h. Have at least one health physicist that has American Board of Health Physics (ABHP) certification (comprehensive practice) or an equivalent level of training, education, and experience. Have at least one employee with certification from the Board of Laser Safety as a Certified Laser Safety Officer or an equivalent level of training, education, and experience.

i. Each professional and technical member of the Health Physics staff shall be National Registry of Radiation Protection Technologist (NRRPT) certified or possess an equivalent level of training, education, and experience.

3.3 Environmental Health Consultation Services

The Contractor shall:

a. Assist the KSC Organizations in the development of policies, documents, designs, and plans to determine the adequacy of preventive measure and controls, and ensure compliance with applicable Federal, state, local, and NASA regulations and requirements;

b. Review existing and proposed Federal, state, and local regulations and NASA policies to determine applicability and potential impact on Center operations;

c. Assist in the preparation of and review of technical training materials;

d. Provide technical and administrative assistance to the KSC Organizations in interfacing with regulatory agencies;

e. Participate in Agency and third party reviews and audits of the KSC EH Program, and assist in development and implementation of appropriate corrective action plans.

3.4 Emergency Response

The Contractor shall:

a. Participate in planning and response for chemical, biological, public health, and radiological emergency activities in accordance with the KNPR 8715.2, KSC Comprehensive Emergency Management Plan. The Contractor shall provide emergency support functions as required by the National Incident Management System and the National Response Framework. Participate in exercises such as hazardous material incidents and hurricane response and recovery, in accordance with KDP-KSC-P-3006, Tropical Storm and Hurricane Preparation, and KDP-KSC-P-3007, Damage Assessment and Recovery. KEMCON Contractor participation in local community response activities shall be in accordance with mutual aid agreements. Requirements for planning and response to major radiological source launches are described in PWS Section 3.7;

b. Provide a 24-hour on-call response capability;

c. Participate in KSC rapid response teams and recovery teams. Deployment and specific composition of the team shall be determined in coordination with the Government on a case-by-case basis;

d. Provide and maintain the appropriate equipment and supplies for emergency response activities;

e. The Contractor shall document their approach to Emergency Management in accordance with DRD 3.4-001, Emergency Management Plan.

3.5 NASA KSC Industrial Hygiene Program

The Contractor shall provide comprehensive IH Services to KSC Organizations at KSC and CCAFS facilities and at off-Center locations within 75 miles of the Center. The Contractor shall provide consultation to NASA operations at VAFB, as required by the Government.

The Contractor shall assist the NASA IH Officer in managing the NASA-KSC IH Program, such as performance of assessment of Center risks, analysis of data and trend analysis to develop exposure and environmental assessment strategies, impact of new regulations and technologies, assessment of KSC Organization IH-related program elements, oversight of technical training materials and new course content, and the development of KSC IH program policy.

The Contractor shall:

a. Interface with KSC Organizations and support IH program functions applicable to employees to include implementation of ergonomics programs and management of health hazards in NASA shops and labs;

b. Work with OM to identify homogeneous exposure groups and provide access to employee exposure monitoring data utilizing the WHAAG application;

c. Provide an online SDS management system which provides Center-wide access to all SDS maintained in the KSC SDS database and for any new SDS submitted to the Contractor by KSC Organizations;

d. Provide baseline and follow-on health hazard assessments of operations and procedures, including construction activities for chemical and physical hazards. The Contractor shall schedule surveys in coordination with customers. Conduct follow-on surveys when baseline data show significant potential for exposures to hazardous agents; when the customer identifies any process or operational changes that may affect the potential or type of exposure; or as required by OSHA regulation;

e. Investigate reported employee exposures to hazardous materials following employee visits to OH facilities within 24 hours;

f. Investigate workforce complaints of potential workplace hazards and coordinate with the affected employee and the appropriate organizations to resolve issues where appropriate;

g. Chair the KSC Indoor Air Quality (IAQ) Working Group, the KSC Ergonomic Working Group, the KSC Hearing Loss Prevention Working Group, and the KSC Respiratory Protection Panel;

h. Provide IH services to launch, landing, and processing operations such as downwind monitoring of hypergolic propellant transfer operations, hypergolic

propellant storage area open-up, oxygen deficiency monitoring and launch pad safing operations;

i. Perform sampling and analysis of air contaminants associated with hazardous operations and processes using both real time and time-weighted-average sampling methods;

j. Provide an exhaust ventilation system testing program to include an inventory of all ventilation systems used to control hazardous air contaminants generated by hazardous operations and processes;

k. Provide a breathing air system testing program, to include an inventory of, testing of, and permitting of all compressor-supplied breathing air systems and inspections and testing of supplied air to meet OSHA and NASA requirements;

l. Provide expert consultation in confined space hazard assessment; manage the KSC inventory of confined spaces; perform confined space hazard assessments, provide recommendations and requirements for confined space entry and work, and perform atmospheric monitoring in support of confined space entry operations;

m. Provide expert consultation in heat illness prevention; perform heat illness hazard assessments; provide Center-wide notification of heat stress conditions;

n. Provide expert ergonomic consultation; conduct musculoskeletal disorder hazard assessments; and operate a loaner program for ergonomic furniture and accessories;

o. Provide expert consultation in respiratory protection and deployment of emergency use respirators;

p. Provide expert consultation in noise hazard assessment and hearing loss prevention; assess noise hazards, engineering controls and hearing protection; coordinate a “Buy Quiet” program;

q. Provide expert consultation on IAQ; investigate IAQ complaints and identify potential causes; coordinate with affected employees and their employers, and appropriate organizations to resolve issues where appropriate;

r. Provide expert consultation in Biological Safety; evaluate written programs and procedures for animal care facility and biological laboratories;

s. Provide services to the KSC asbestos management operations to include:

- Bulk sampling and analysis of suspect Asbestos Containing Materials (ACM);
- Inspections to identify suspect ACM; risk analysis of scheduled facilities operations and maintenance where ACM is present; assessment of written asbestos abatement procedures; pre-abatement inspections; surveys and audits of asbestos abatement operations; clearance level air monitoring for abatement projects; and asbestos abatement monitoring support to NASA

and NASA contractor construction activities; excludes pre-work inspections, bulk sampling, and post-work clearance for KSC Organization's construction activities;

- Keeping the Government-provided KSC Facility Asbestos Management Information System (AMIS) up-to-date with current ACM data;
- Coordination with NASA and contractor facilities organizations responsible for construction and maintenance activities requiring work with ACM. The KEMCON Contractor shall update AMIS with information on ACM condition and/or removal from the ISC and Construction of Facilities Contractors after facility condition assessments or abatement projects are completed.

t. Provide environmental microbiology testing of air, surface, and water samples as required to support facilities management (IAQ, cooling towers, potable water sources, dairy products, sewage plants) and support to spacecraft operations, research projects, and environmental programs.

3.6 Sanitation and Public Health

The Contractor shall provide services, which include surveillance and inspections, to evaluate compliance with KNPR 1870.1, KSC Sanitation Program, and Federal, state, and local laws and regulations for issues related to sanitation and public health. Services shall include:

a. Sanitary surveys of food service facilities (preparation sites, storage areas, mobile canteens, and vending machines), and other locations such as day care operations, barber shops, recreation and exercise facilities, launches, special events, and the KSC Astronaut crew quarters;

b. Testing of bottled water at KSC facilities where this is the sole drinking water source;

c. Inspection of animal care facilities;

d. Inspection of chemical toilets;

e. Investigations of disease vectors;

f. Identification of training and certification requirements in the aspects of food service sanitation for all food service employees;

g. Consultation to the Government and its contractors in fulfillment of their Federal and state regulatory obligations/compliance;

h. Specialized investigative, sampling and analysis, and advisory support to real-time incidents, and/or complaints to include food borne illness investigations, potable water incidents, and disease vector reports;

i. Coordination of food recalls to affected organizations at KSC facilities;

j. Specialized consultation to Center food service operators on the development and maintenance of Hazardous and Critical Control Point (HACCP) plans;

k. Investigation of animal bite incidents to ensure appropriate treatment of victim, and coordination with appropriate local authorities;

l. Coordination with Florida State regulatory agencies for maintenance of licenses and certifications required to perform Public Health and Sanitation services.

3.7 Health Physics (Radiation Protection)

The Contractor shall provide comprehensive HP services to KSC Organizations at KSC and CCAFS facilities and at off-Center locations within 75 miles of the Center. The Contractor shall provide facility site inspection and on-site consultation to NASA operations at VAFB, as required by the Government.

The Contractor shall assist the NASA Radiation Protection Officer (RPO) in managing the KSC Radiation Protection Program including assessment of Center risks, analysis of data and trends, impact of new regulations and technologies, maintenance and compliance with the requirements of the KSC Nuclear Regulatory Commission broad scope license, and the development of Center Radiation Protection Program policy.

The Contractor shall:

a. Perform assessment of personnel hazards in all KSC Organization radiation use areas;

b. Maintain a current inventory (to meet regulatory requirements) for all identified radiation sources and radiation producing devices in use or in storage;

c. Perform radiation surveys, evaluations, sampling, analysis, and audits as directed by the RPO to ensure compliance with NASA requirements and applicable state and Federal regulations;

d. Maintain equipment for use in performing field surveys and analysis of ionizing and non-ionizing radiation hazards;

e. Manage the KSC personnel ionizing radiation dosimetry program for radiation workers requiring dosimetry. Identify personnel to be monitored, issue appropriate dosimeter, assess and assign radiation dose, and maintain exposure histories as required by applicable regulations. Provide technical expertise and support for special dosimetry applications;

f. Process Radiation Use Requests (RURs) and associated documents, and drafting of Radiation Use Authorizations (RUAs) for RPO approval for all potentially hazardous radiation sources and devices in accordance with KNPR 1860.1, KSC Ionizing Radiation Protection Program, and KNPR 1860.2, KSC Non-Ionizing Radiation Protection Program;

g. Provide initial and periodic radiation protection training to all user/operators listed on RUAs;

h. Collect, monitor, and store low-level radioactive waste, and maintain and operate a dedicated storage area for material awaiting disposal or transfer;

i. Advise KSC Organizations on compliance with Federal and state regulatory requirements;

j. Provide radiation monitoring assistance to the Brevard County Emergency Operations Center when directed by the KSC RPO;

k. Maintain appropriate state of Florida and United States Nuclear Regulatory Commission (USNRC) Center-wide licenses and registrations for radioactive materials and radiation producing machines; and participate in Federal and state inspection visits;

l. Provide a Health Physics representative to the NASA/KSC Radiation Protection Committee (RPC) meetings who will also record the minutes and maintain official copies of RPC meeting minutes;

m. Provide HP support in ground processing of Major Radiological Source (MRS) payloads. The Contractor support shall include:

- Participation in MRS ground operations planning meetings;
- Review of spacecraft radiation source integration procedures;
- HP coverage at storage, payload processing, and launch pad facilities to perform radiation monitoring, RUA compliance, and personnel radiation exposure monitoring to ensure personnel radiation exposures are kept As Low As Reasonably Achievable;
- RUA preparation and radiation safety training to non-handlers of radiation sources;
- Non-routine radiation dosimetry services for workforce temporarily assigned to ground processing;
- Dose Assessment Management Plan preparation to forecast worker radiation dose based on time and motion studies of proposed spacecraft source integration activities.

n. Participate in radiological contingency planning and operations for major radiological source payloads in accordance with KSC-PLN-1903, KSC Radiological Contingency Plan for Major Radiological Source Missions. The Contractor shall:

- Provide radiological contingency planning support to the KSC RPO in the development of contingency plans, operating instructions, and procedures;
- Staff the radiological contingency field teams, HP laboratory, Radiological Control Center, and other support locations as directed by the KSC RPO;

- Ensure field teams are provided with appropriate Government-provided radiation monitoring instrumentation and communication equipment and supplies and are appropriately trained to perform assigned duties;
- Store, maintain, calibrate, and deploy Government-provided Environmental Continuous Air Monitors along with other specialized field monitoring equipment to include FIDLER monitoring instruments, alpha survey meters, multi-detector survey meters, and high volume air samplers used in support of MRS missions.

3.8 Environmental Health Laboratories

The Contractor shall provide comprehensive EH laboratory services. EH laboratory services, with the exception of the HP laboratory, can be provided on-site or off-site. The Contractor shall:

a. Ensure analyses of samples for IH are performed by laboratories certified by the American Industrial Hygiene Association;

b. Provide Polarized Light Microscopy (PLM) evaluation of bulk materials that contain or are suspected of containing asbestos; the asbestos PLM turnaround time within 10 work days, and the analytical laboratory shall be accredited by the National Institute of Standards and Technology/National Voluntary Laboratory Accreditation Program to analyze asbestos by PLM. The Contractor shall provide a follow-on evaluation of questionable bulk samples by other appropriate analytical techniques;

c. Provide analytical services for Phase Contrast Microscopy (PCM) in accordance with the Asbestos Hazard Emergency Response Act of 1986 or per industry practices, and conduct follow-up analysis of questionable samples and final asbestos abatement air samples;

d. Provide Environmental Microbiological Laboratory (EML) sampling and analysis of bacteriological and mycological agents as well as sampling and analysis for pH, conductivity, chlorine, iodine, and dissolved gases. This includes samples taken by EML staff in support of EH, environmental and potable water system samples, and samples taken in support of spacecraft processing operations. (Note: The KSC potable water system operator is responsible for monthly microbiological compliance sampling and reporting. Analysis of the samples and sample results shall be provided to the potable water system operator by the KEMCON Contractor upon request. KEMCON is responsible for samples taken in support of Sanitation and Public Health (PWS 3.5), and Environmental Sampling requirements (PWS 4.7) as described in this PWS;

e. Ensure the EML meets certification by the State of Florida Department of Rehabilitative Services and other Florida State certifications;

f. Maintain and operate an on-site HP laboratory in accordance with applicable USNRC, state of Florida, and other consensus standards, with the following analytical capabilities:

- Low level alpha/beta counting capable of detecting less than 0.005 microCuries of radioactive material;
- Gamma spectroscopy analysis with portable field data collection capability;
- Liquid scintillation analysis capability.

g. Ensure calibration and maintenance support for all KEMCON laboratories and field instrumentation and maintain calibration and maintenance records for each instrument in accordance with KNPR 8730.1, KSC Metrology and Calibration Procedural Requirements. (Note: Per Attachment J-06, Government-Furnished Services, on-site calibration laboratory services are provided as a Government-furnished service to the KEMCON Contractor.)

4.0 ENVIRONMENTAL SERVICES

4.1 Administration and General Requirements

Environmental services shall be provided on-site at KSC and at NASA work locations on CCAFS on first shift, excluding KEMCON Contractor holidays. The Contractor shall also respond to off-shift customer activities requiring KEMCON Contractor participation, to support scheduled operations and emergency response activities, within two hours from notification.

4.2 Training, Certifications, and Licensure

When work activities under Section 4.0 require personnel to have specific training, certification, and licenses, the Contractor shall meet the following requirements:

a. Visible emissions evaluators shall be certified by the state of Florida;

b. Professional Geologists and Professional Engineers shall be registered and licensed by the state of Florida;

c. Hazardous Materials Manager shall be certified by the Institute of Hazardous Materials Management.

4.3 Consultative Services

The Contractor shall provide the following:

a. Consultative and advisory services in the areas of Section 4.0 of this PWS to KSC Organizations in fulfillment of their Federal and state and local regulatory obligations/compliance;

b. Technical support to meet mission and environmental permit and regulatory requirements as well as environmental permit and requirements development;

c. Professional engineering services to include the preparation, review, signing, and sealing of environmental plans and permits in support of the KSC Medical and Environmental Management Division such as but not limited to the KSC Resource Conservation and Recovery Act (RCRA) permit modifications and renewal, the KSC Clean Air Act Title V Air Operation Permit modifications and renewal, KSC landfill permit modifications and renewal, and modifications to the KSC Spill Prevention Control and Countermeasures (SPCC) Plan. The Government may authorize additional professional engineering services through issuance of a task order;

d. Evaluation of in-house environmental training classes provided by the Government, such as Hazardous Waste Management, Universal Waste Management, and SPCC requirements;

e. Preparation of reports and forms for response to regulatory and permit driven requirements as described in Section 4.0 of this PWS. Individual report due dates will be established based on the direction of the Government to allow sufficient time for review and comment before the regulatory due date.

4.4 NASA-KSC Environmental Management Branch and Environmental Assurance Branch Support

The Contractor shall provide the following technical services to the Government in support of the environmental management program at KSC.

4.4.1 Surveillance Services

As directed by the Government, the Contractor shall perform inspections of operations and construction sites and provide the Government with written documentation of findings. The inspections are intended to be spot checks of all KSC Organizations and are part of the Government's oversight strategy for ensuring environmental compliance at KSC. The Contractor shall partner with the Government on areas of emphasis. Each inspection involves:

a. Conducting the inspection;

b. Writing a formal inspection report/correspondence that differentiates between regulatory violations, KSC policy violations, best management practice recommendations, and positive findings;

c. Briefing inspection results to Government subject matter experts and project managers;

d. Entering inspection data and findings into a tracking database. The Contractor may use the Government-provided database as referenced in Attachment J-16, Government-furnished Legacy IT Systems, or develop its own database;

e. Providing consultation and follow-up to ensure the findings are corrected.

The Contractor shall provide personnel with subject matter expertise and conduct surveillance inspections for various environmental media such as:

a. Hazardous and Controlled Waste;

b. Stormwater;

c. Potable Water;

d. Domestic Wastewater and Septic Systems;

e. Industrial Wastewater;

f. Air Emissions Compliance;

g. Polychlorinated Biphenyls (PCB) Management;

h. Pesticides;

i. Solid Waste;

j. Registered Storage Tanks;

k. SPCC Requirements.

The Contractor shall prepare and deliver a briefing to NASA Environmental Assurance Branch (EAB) staff each fiscal year that summarizes inspection results, identifies trends, and recommends inspection priorities for the next fiscal year.

4.4.2 Environmental Support for Construction

The Contractor shall provide environmental technical expertise to construction projects through all phases of project construction (i.e., project concept, preliminary engineering report, engineering design, contract preparation, and project construction phases). The Contractor shall:

a. Assist the project manager and/or their Architect and Engineer (A&E) contractor in the preparation of KSC Environmental Checklist, KSC Form 21-608, identifying potential environmental compliance requirements related to the project;

b. Assist with a walkdown of facilities prior to demolition. Identify recyclable commodities and maximize reimbursement value. Assist KSC Historic Preservation Officer to identify and disposition artifacts, and other related services;

c. Provide information on ACM from the Government-provided AMIS database when applicable to the construction project;

d. Participate at design review and pre-work meetings to ensure that environmental requirements, per the KSC Record of Environmental Consideration (REC), are communicated to A&E and construction contractors. This includes review of designs, providing comments, coordinating between the NASA project manager and the NASA EAB and Environmental Management Branch (EMB), and building of pre-work work packages to further document environmental requirements;

e. Review construction contract design packages for the applicability of KSC environmental clauses and specifications;

f. Review and track KSC dig permits (reference KSC Form 26-312) and KSC siting requests for potential environmental impacts;

g. Track the environmental requirements for each project assigned and track the transfer of data between the NASA project manager and the EAB and EMB;

h. Provide routine field consultation on the technical aspects of environmental requirements such as waste management guidance.

4.4.3 National Environmental Policy Act Services

The Contractor shall provide technical support to the Government in the preparation and review of National Environmental Policy Act (NEPA) documentation as follows:

a. Manage the KSC environmental checklist process to include periodic reviews of the Environmental Checklist Form and managing the environmental checklist data in the Government-provided KSC Environmental Checklist Database described in Attachment J-16, Government-Furnished Legacy IT Systems;

b. Working with Government and KEMCON Contractor subject matter experts, complete a REC for all KSC Environmental Checklists submitted to the EMB;

c. Annually review and update the KSC Environmental Resources Document (ERD) for minor changes. Perform major revision of the ERD prior to expiration. Note: the ERD is on a five year revision cycle;

d. Assist KSC Environmental Planning Group with NEPA projects and documentation to include tracking all KSC NEPA projects;

e. Provide technical review of NEPA documents as directed by the Government.

4.4.4 Environmental Permitting and Compliance Support Services

The Contractor shall provide personnel with environmental engineering expertise in air quality, water quality, and regulated storage tank permitting and compliance areas. Water quality program areas include drinking water, stormwater, SPCC plans, Environmental Resource Permits (ERP), industrial wastewater, domestic wastewater and septic systems, consumptive use, limited use wells, underground injection control, and construction dewatering. The Contractor shall:

a. Assist the Government in managing the NASA-KSC air quality, water quality and regulated storage tank program (such as air emissions, air permitting, asbestos abatement/demolition, ozone depleting substances, greenhouse gases, risk management plans, total maximum daily loads for stormwater systems and SPCC plans) according to Federal, state of Florida, and local laws and regulations;

b. Prepare and submit Title V Air Operation Permit Annual Operating Reports, Annual Statements of Compliance, Semi-Annual Monitoring Reports, and storage tank registration documents;

c. Manage the KSC Title V Air Operation Permit renewals and modifications;

d. Provide consultation and compliance assistance to KSC Organizations regarding air quality, water quality and regulated storage tank requirements;

e. Review proposed projects, environmental checklists, or designs; attend project scoping and design meetings; interpret regulations; determine applicable air

quality, water quality and regulated storage tank requirements; and communicate requirements to project proponents;

f. Assist KSC Organizations in obtaining and executing air construction and water quality permits. Consult with the project proponents and professional engineer preparing the application to develop permitting strategies; facilitate and participate in pre-application meetings with regulatory agencies; review draft permit applications; submit permit applications; review and negotiate draft permits with regulatory agencies; arrange permit public notices; perform construction oversight to ensure compliance with construction permits; and submit required notifications and reports to regulatory agencies;

g. Provide personnel with subject matter expertise in ERP associated with dredge and fill activities, including preparation of permit application packages and performing site investigations, wetland delineation and pre-application meetings with regulatory agencies;

h. Manage the NASA-KSC water quality and regulated storage tank files, data, and records;

i. Manage and update the KSC Industrial Wastewater Inventory (KIWI);

j. Manage the NASA-KSC air quality files, data and records using the Government-provided air compliance database described in Section J-16, Government-Furnished Legacy IT Systems;

k. Perform regulatory notifications and arrange for regulatory inspections for regulated storage tank installation, closure/removal, maintenance, or repair projects;

l. Manage and consult on regulated storage tank closure and installation projects. Review and submit investigation and closure reports to regulatory agencies;

m. Maintain and update the stormwater permit layer in the Contractor's GIS (Reference Section 4.9) and provide it to the ISC Contractor to update the KSC Institutional Geographic Information System (GIS);

n. Participate in regulatory agency inspections and NASA Environmental and Energy Functional Reviews (EEFRs), developing/implementing corrective actions to inspection findings, and submitting written corrective action responses to regulatory agencies;

o. Maintain, calculate, and update the NASA-KSC emissions inventory for significant and insignificant sources. Maintain and update emission unit/equipment inventories;

p. Develop and update processes, procedures (such as KDPs), requirements documents (such as KNPR 8500.1), and fact sheets related to air quality, water quality and regulated storage tank requirements;

q. Review proposed regulations and identify impacts and risks to NASA-KSC operations;

r. Evaluate NASA-KSC operations to determine applicability of Clean Air Act Section 112(r) regulations. Develop, update, and certify risk management plans if required;

s. Develop innovative permitting strategies to reduce or minimize compliance burdens on NASA-KSC organizations and contractors;

t. Respond to calls and information requests from NASA-KSC management, NASA Headquarters, and regulatory agencies regarding air quality compliance and permitting information, records, emissions, and data;

u. Prepare briefings and briefing notes when requested. Attend and present briefings when requested;

v. Participate in regulatory partnering team meetings.

4.4.5 SPCC Plan Updates

The Contractor shall maintain and update the NASA-KSC SPCC Plans.

a. For KSC-PLN-1919, NASA-KSC General SPCC Plan, the Contractor shall:

- Maintain and update, as needed, to incorporate regulation changes, update administrative information, modify plan requirements, or comply with the five-year review cycle, as directed by the Government;
- Certify and develop amendment logs for all technical modifications to the Plan;
- Submit final plan to the Government in PDF format along with a written summary of plan changes.

b. For KSC-PLN-1920, NASA-KSC Site-Specific SPCC Plans, the Contractor shall:

- Request changes and updates from all KSC Organizations at least every six months. KSC Organizations are responsible for maintaining site-specific SPCC plans for their oil storage activities and for having a licensed PE certify and prepare amendment log entries for all technical modifications to those site-specific SPCC plans;
- Submit each updated plan to the Government in PDF format along with a written summary of plan changes;
- Assist KSC Organizations, when requested, by preparing and updating site-specific SPCC plan maps;
- Provide updated SPCC layers to the ISC to update the KSC Institutional GIS;
- Maintain the official amendment log for all plan changes;

- Maintain the data in the Government-provided, web-based, SPCC data management system described in Section J-16, Government-Furnished Legacy IT Systems, to facilitate the updating of site-specific SPCC plan information.

4.4.6 Remediation Program Services

The Contractor shall:

a. Produce maps and figures from the Contractor's GIS (Reference Section 4.9) required for the Remediation Program;

b. Manage the Remediation Program documentation in accordance with guidance from the Remediation Program Lead;

c. Manage investigative derived wastes generated by remediation contractors in accordance with KNPR 8500.1, KSC Environmental Requirements;

d. Perform quarterly site inspections for compliance with land use controls and update Land Use Control Implementation Plan (LUCIP) information in the Remediation Information System maintained by the KSC Remediation Services Contractor;

e. Maintain pollution incident report data;

f. At the direction of Remediation Project Managers prepare standard reports; such as, LUCIPs and Site Rehabilitation Completion Orders.

4.5 Hazardous and Controlled Waste Management and Disposal

The Contractor shall provide hazardous and controlled waste characterization, sampling, pick-up, treatment, and disposal services for NASA operations at KSC and CCAFS. "Hazardous wastes" are defined by RCRA regulations and Florida Administrative Code Chapter 62-730. "Controlled wastes" are non-hazardous wastes regulated for disposal by other Federal or state of Florida laws/regulations or are non-hazardous wastes that, if released to the environment, could create an unacceptable exposure or environmental conditions requiring a cleanup action under Federal or state of Florida laws/regulations. Controlled waste does not include general municipal solid waste which is picked up and disposed under a separate contract.

The Contractor shall:

a. Prepare and maintain a written comprehensive Waste Management and Sampling Plan in accordance with DRD 4.5-001, Waste Management and Sampling Plan;

b. Participate in regulatory agency inspections, NASA EAB internal inspections, and NASA EEFR audits of NASA-KSC hazardous and controlled waste operations and KEMCON Contractor waste storage sites. Develop and implement

corrective actions to inspection findings and submit written corrective action responses to the Government;

c. Establish a mechanism to track and allocate costs associated with hazardous and controlled waste characterization, sampling, pick-up, treatment, and disposal to individual waste generators/customers to support accurate cost allocation;

d. Ensure that personnel assigned to hazardous and controlled waste pick-up, management, on-site transportation, off-site shipping, packaging, and manifesting duties maintain current training and/or certifications as required by Federal and state of Florida regulations including, but not limited to, United States Environmental Protection Agency (USEPA), OSHA, and United States Department of Transportation (USDOT) regulations;

e. Provide at least one Certified Hazardous Materials Manager.

4.5.1 Waste Characterization and Sampling

The Contractor shall provide waste characterization and sampling services as follows:

a. Collect and evaluate waste stream information and sampling results from waste generators/customers, and provide waste characterizations to determine if wastes are hazardous or controlled in accordance with applicable regulations and to determine the proper method of disposal for those wastes (e.g., off-site treatment/disposal, recycling, on-site disposal in a Federally Owned Treatment Works (FOTW), on-site disposal in the KSC Class III Landfill). Communicate the proper on-site management requirements (containerization, packaging, labeling, etc.) to the waste generator/customer;

b. Recommend and conduct waste sampling and analysis necessary to characterize potentially hazardous or controlled wastes. Some waste samples may be collected in-situ and may involve removing materials (such as paints and coatings) from facilities. Some waste sampling efforts may require special permits, training, or certifications (such as confined space entries or fall protection training/certifications). Conduct waste sampling and analysis in accordance with USEPA regulations, USEPA Solid Waste Manual SW-846, and state of Florida regulations, Standard Operating Procedures, and quality assurance standards;

c. Implement a chain-of-custody and labeling system to defensibly track samples and analytical results. Laboratories shall be fully accredited/certified by the state of Florida. Review analytical results and associated quality assurance data to ensure that the results are usable, acceptable, and defensible;

d. Provide a customer request process for waste sampling services on a routine and emergency basis. Routine waste sampling shall be performed within 5 work days from date of request. Emergency waste sampling shall be performed within 2 hours from time the request was received. Sampling results for routine

requests shall be provided to the customer within 14 work days from the sampling date. Sampling results for emergency requests shall be provided to the customer within 3 work days from the sampling date;

e. Provide a customer request process for waste characterizations on a routine and emergency basis. Routine waste characterizations shall be performed within 7 work days from the date of request. Emergency waste characterizations shall be performed within 1 work day from the date of request. The Contractor may use the Government-provided Waste Management System (WMS) to provide the Process Waste Questionnaire (PWQ)/Technical Response Package (TRP) waste characterization process as referenced in Attachment J-16, Government-furnished Legacy IT Systems, or provide its own system;

f. Maintain an electronic database of all waste characterizations including waste stream information collected from waste generators/customers, sampling results, and other information used as a basis to characterize the waste. The Contractor may use the Government-provided WMS to process and store waste characterization information as referenced in Attachment J-16, Government-furnished Legacy IT Systems, or provide its own system;

g. Identify possible candidates for disposal to grade or in the on-site FOTW when performing waste characterizations for industrial wastewaters. Issue a written discharge authorization if release to grade is permitted. Coordinate with the KSC domestic wastewater collection and transmission system operator and the CCAFS domestic wastewater treatment plant operator to obtain a written discharge authorization for the wastewater, determine pre-treatment standards if required, and determine discharge restrictions if discharging to the FOTW. The waste characterization response to the waste generator/customer shall include the approved discharge authorization, pre-treatment standards, and discharge restrictions;

h. Employ cost-effective disposal methods and maximize waste stream recycling when feasible and when allowed by regulation;

i. Review and update established waste characterizations and discharge authorizations as needed to reflect changes in regulations, on-site management requirements, or KSC policy. Provide updated waste characterizations and discharge authorizations to waste generators/customers as required.

4.5.2 Hazardous and Controlled Waste Pick-up, Treatment, and Disposal

The Contractor shall provide hazardous and controlled waste pickup and disposal services as follows:

a. Pick-up, handle, manage, store, ship, treat, and dispose of hazardous and controlled waste streams. The Contractor may utilize the Government's existing permitted hazardous waste storage facilities listed in the NASA-KSC hazardous waste operating permit;

b. Operate KEMCON-managed waste storage facilities according to Federal, state of Florida, and local regulations and permit conditions, if applicable;

c. Schedule and pick-up hazardous and controlled wastes from waste generator/customer sites and properly dispose in accordance with applicable Federal, state of Florida, and local regulations and within regulatory time limits. This scope includes disposal of specialized waste streams such as hypergolic and propellant wastes, ordnance wastes, low-level radioactive wastes, biomedical wastes, asbestos wastes, and PCB wastes. Waste pick-ups may involve physically removing waste containers or transferring wastes from containers, sumps, containment basins, tanks, or tanker trucks. This scope does not include pick-up and disposal of domestic wastewater;

d. Provide a customer request process for waste pick-up services on a routine and emergency basis. Respond to routine waste pickup/removal requests within 10 calendar days from the date of the request. Respond to emergency waste pickup/removal requests within 2 hours from the time the request was received. The Contractor may use the Government-provided WMS as a part of this process as referenced in Attachment J-16, Government-furnished Legacy IT Systems, or provide their own system;

e. Implement a container marking and tracking system to document waste pick-ups and to link individual waste containers or bulk shipments to off-site shipping manifests, waste characterization information, waste pick-up locations, and waste generators/customers. The Contractor may use the Government's existing container barcode and internal manifest system or implement their own system;

f. Prepare and sign shipping manifests on behalf of the Government;

g. Maintain an electronic database of all waste disposed. The Contractor may use the Government-provided WMS as a part of this process as referenced in Attachment J-16, Government-furnished Legacy IT Systems, or provide their own system;

h. For all off-site shipments, ensure that all waste containers are properly packaged, labeled, marked, manifested, and shipped in accordance with applicable Federal, state of Florida, and local regulations such as, but not limited to, USDOT and RCRA regulations. Ensure that transport vehicles meet USDOT requirements and are properly placarded. Ensure that transporters possess all required Federal, state of Florida, and local transporter permits, licenses, or registrations. For wastes shipped out of Florida, ensure that shipments comply with state requirements along the shipping route;

i. For all on-site waste transfers within KSC and CCAFS property, ensure that the waste generator/customer has properly packaged, labeled, and marked all waste containers in accordance the waste characterization response document and applicable USDOT and RCRA regulations prior to removal from the site. The

Contractor shall adhere to all USDOT and RCRA regulations when transporting waste on Center unless otherwise approved by the Government;

j. Actively seek out opportunities to cost-effectively recycle hazardous and controlled waste streams (such as used oil, petroleum products, universal wastes, and coolant) within regulatory requirements. Provide pick-up, management, and recycling services;

k. Pick-up inorganic zinc paint waste daily, when generated, from waste generator/customer sites and process the waste through the permitted treatment process in accordance with the NASA-KSC hazardous waste operating permit. Maintain treatment records as required by the permit;

l. Pick up and dispose of industrial wastewater generated by waste generators/customers. Industrial wastewater classified as a hazardous waste or disapproved for disposal via the on-site FOTW shall be shipped off-site for proper disposal. For industrial wastewater approved for discharge to the on-site FOTW, the Contactor shall verify that the waste generator/customer has complied with pretreatment standards and coordinate discharges with the KSC and CCAFS FOTW domestic wastewater system operators. Oily waste water approved for FOTW disposal shall be segregated from other industrial waste water and discharged at the CCAFS Trident Pre-Treatment Plant. Other industrial wastewater shall be discharged at the closest location approved by the KSC and CCAFS domestic wastewater system operators;

m. Containerize, manage, sample, characterize, and dispose of any abandoned wastes discovered;

n. Pick up, manage, and dispose of containerized spill cleanup wastes (contaminated media and cleanup materials);

o. Transport containers of dilute hypergolic wastes from waste generator/customer sites to Fuel Storage Area #1 at CCAFS for consolidation, treatment, and/or disposal;

p. Provide guidance, compliance assistance, consultation, authorization, and tracking for all on-site hazardous waste treatment, disposal, and recycling activities performed by the KEMCON Contractor and by waste generators/customers. Historical activities have included elementary neutralization of corrosive wastes, waste aerosol can crushing, treatment of inorganic zinc paint waste, hypergolic propellant waste neutralization, hypergolic propellant waste chemical complexation, solvent recycling via distillation, silver recovery from photofinishing wastes, decontamination of PCB bulk product wastes, etc.:

- Collect information from waste generators/customers regarding proposed activities and waste streams from the process;

- Review the proposed activity, investigate applicable regulatory requirements, and determine waste disposal requirements. Determine if output waste streams qualify for on-site disposal via the FOTW;
- Communicate to the Government any potential regulatory notifications (including one-time notices) required to conduct the on-site treatment, disposal, or recycling activity. Assist the Government in preparing notifications;
- Assist the Government with regulatory agency coordination or obtaining formal approval regarding on-site treatment, disposal, or recycling activities. Participate in meetings with regulatory personnel when requested by the Government;
- Prepare a written determination to the waste generators/customers that approves/denies the proposed activity, describes the regulatory basis for the approval/denial, and communicates the regulatory and waste disposal requirements;
- Coordinate with the waste generators/customers and maintain records of the dates and quantities of hazardous waste disposed, treated, or recycled on-site. Provide an annual report to the Government regarding these activities in accordance with DRD 4.5.2-001, Annual KSC On-Site Hazardous Waste Treatment, Disposal, and Recycling Report.

q. Pick up and crush empty recyclable drums generated by waste generators/customers. Palletize and transport crushed drums to the KSC Reutilization, Recycling, and Marketing Facility for scrap metal recycling. Decontaminate drums as necessary and properly dispose of the rinsates;

r. Provide a quarterly report in the form of an Excel spreadsheet which summarizes information regarding off-site shipments of hazardous and controlled waste and on-site disposal of industrial wastewater via the FOTW by KEMCON in accordance with DRD 4.5.2-002, Quarterly Hazardous and Controlled Waste Report;

s. Prepare the NASA-KSC Annual PCB Document Log in accordance with 40 CFR 761. Deliver draft report to the government 60 days before regulatory due date for review. Address comments and submit final report by regulatory due date in accordance with DRD 4.5.2-003, NASA-KSC Annual PCB Report;

t. Prepare the NASA-KSC biennial hazardous waste report in accordance with DRD 4.5.2-004 NASA-KSC Biennial Hazardous Waste Report and according to Federal and state of Florida regulations;

u. Provide USEPA hazardous waste identification (ID) numbers and copies of all required permits for off-site hazardous and controlled waste transporters and treatment, storage, and disposal facilities (TSDFs) utilized. The Contractor must have prior written concurrence by the CO before making a change to a hazardous waste transporter or off-site TSDF. Copies of the permits and USEPA

hazardous waste ID numbers for any proposed transporter or TSDF must be provided to the Government for evaluation, in accordance with DRD 4.5.2-005, Off-Site Hazardous Waste Transporters and Facilities Report;

v. Audit all off-site hazardous waste TSDFs used by KEMCON annually for regulatory and permit compliance. The audit shall be performed by an independent third-party and shall be contracted separately from the off-site hazardous waste disposal services. Copies of the audit report shall be provided to the Government within 30 days of completion, in accordance with DRD 4.5.2-006, Off-Site Treatment, Disposal, and Recycling Facility Audit Report. The Government may attend and participate in these audits;

w. Provide alternative treatment or disposal facilities to cover unanticipated events which could preclude treatment or disposal, such as, the proposed facility refusing to accept the waste, going out of business, or otherwise becoming incapable or unsuitable to handle the wastes properly;

x. Immediately notify the Government within 3 work days of any waste found to deviate from the characterization document or shipping papers. Actively work with the waste generator/customer and/or disposal facility to re-characterize and dispose of the waste. Notify the Government if a formal regulatory notification is required for the incident;

y. Manage hazardous and controlled waste records, files, data, correspondence, internal/external manifests, shipment information, and disposal information on behalf of the Government;

z. Participate in regulatory partnering meetings;

aa. Provide compliance assistance and consultation services to the NASA EAB and waste generators/customers regarding hazardous and controlled waste management, treatment, disposal, and recycling when requested;

bb. Provide roll-off and bulk containers for both hazardous and controlled waste to waste generator/customer sites when requested by the Government.

4.6 Post-Emergency Spill Clean-up

The Contractor shall provide post-emergency spill clean-up, decontamination, neutralization, and disposal of wastes generated from clean-up activities at KSC and NASA operations at CCAFS with the exception of domestic waste water spills. The Contractor shall provide 24 hour, 7 day a week on-call response. The Contractor shall interface directly with NASA-KSC emergency response personnel on hazardous material incidents. Post-emergency spill clean-up shall commence within one work day of notification. The Contractor shall provide spill response for all releases that pose a danger to the environment, including surface water, groundwater and both pervious and impervious surfaces. The Contractor shall also perform mercury spill clean-up under the direction of EH. If the clean-up requires heavy-equipment or additional support the

Contractor shall provide the service or contract with an outside vendor to obtain the necessary equipment or service. The Contractor shall notify the Government of the status of clean-up actions:

a. All spills/releases to environmental media (soil, sediment, surface water, groundwater, etc.) must be cleaned up to the state of Florida residential clean-up standards unless otherwise directed by the Government. The Contractor shall collect and analyze samples to confirm that clean-up standards have been met;

b. After the clean-up action has been completed, the Contractor shall submit a summary report to the Government that documents spill and clean-up information such as dates, spill location (recorded by Global Positioning System (GPS) equipment), material spilled, estimated quantity spilled, impacted media, wastes generated, waste disposition, clean-up activities, and photographs of the spill before and after clean-up. In addition, for spills/releases to environmental media, the summary report shall include a description of the corrective actions taken, a map showing the spill location, general dimensions of the affected area using GPS coordinates, confirmatory sample locations, and confirmatory sampling results;

c. During non-duty hours, weekends, and Federal holidays, the Contractor shall be responsible for immediately reporting all spills, releases, and discharges that exceed reportable quantity thresholds to the appropriate NASA-KSC authority and regulatory agencies (such as the National Response Center, Florida State Watch Office, Florida Department of Environmental Protection, etc.) on behalf of the Government. The notification shall occur as soon as the Contractor has identified the commodity and quantity that was released, determined that the environment was impacted, and reporting threshold was exceeded;

d. Contractor personnel assigned to hazardous material spill clean-up teams shall maintain current training and/or certifications as required by Federal and state of Florida regulations including, but not limited to, USEPA and OSHA regulations;

e. Establish a mechanism to track and allocate costs associated with spill clean-up activities to individual waste generators/customers to support accurate cost allocation.

4.7 Environmental Sampling, Analysis, Monitoring, and Reporting

The Contractor shall:

a. Provide environmental sampling, analysis, monitoring, and reporting services for NASA operations at KSC and CCAFS. These services may be required by permit/regulation or be discretionary for operational purposes;

b. Conduct sampling and analysis in accordance with USEPA regulations, USEPA Solid Waste Manual SW-846, and state of Florida regulations, Standard Operating Procedures (SOPs), and quality assurance standards. Some

sampling efforts may require special permits, training, or certifications, such as confined space entries or fall protection training/certifications;

c. Perform required in-field analytical tests such as moisture, pH, conductivity, dissolved oxygen, temperature, etc., as required by SOPs;

d. Ensure environmental sampling equipment is properly calibrated and maintained;

e. Implement a chain-of-custody and labeling system to defensibly track samples and analytical results;

f. Provide comprehensive environmental laboratory services. Laboratory services can be provided on-site or off-site. Laboratory services shall be fully accredited/certified by the state of Florida;

g. Prepare and provide to the Government laboratory analysis reports documenting sample history, analytical results versus specification limits by sample control number, and maintain records in accordance with regulatory and quality requirements;

h. Review analytical results and associated quality assurance data to ensure that the results are usable, acceptable, and defensible;

i. Prepare regulatory reports, forms, and electronic data deliverables as required by permits and applicable regulations and deliver to the Government for submission;

j. Maintain field parameters, analytical data, and reports electronically. The Contractor shall evaluate environmental monitoring data to identify trends in environmental quality and environmental compliance;

k. Prepare and maintain a written Environmental Sampling Plan which outlines sampling program facets such as procedures, SOPs, protocols, locations, media, methods, target analytes, sampling schedule/frequency, laboratory analytical methods, applicable regulatory/permit requirements, regulatory reporting forms, and regulatory report due dates in accordance with DRD 4.7-001, Environmental Sampling Plan.

4.7.1 Environmental Compliance and Permit Sampling, Analysis, Monitoring, and Reporting

The Contractor shall review permits and applicable regulations to evaluate and determine requirements and provide environmental compliance and permit sampling, analysis, monitoring, and reporting services as required. These services include, but are not limited to, the following areas:

a. Potable water system and water supply sampling and construction clearances;

(Note: The KSC potable water system operator performs monthly microbiological compliance sampling and reporting. The KEMCON Contractor shall perform other microbiological and all chemical (such as disinfection byproducts, lead and

copper, and asbestos) compliance sampling and reporting. The KEMCON Contractor shall analyze all microbiological samples (reference PWS 3.8)).

b. Landfill compliance monitoring (such as groundwater, surface water, and gas vents);

c. Industrial wastewater permit sampling;

d. Air emission permit monitoring (such as visual emission observations and oxidation catalyst compliance testing);

e. Stormwater permit sampling;

f. Limited use well sampling;

g. Underground and aboveground storage tank closure;

h. Hazardous waste storage facility, treatment operation, or tank closures;

i. Consumptive use permit reporting.

4.7.2 Operational Environmental Sampling, Analysis, and Monitoring

The Contractor shall provide operational environmental sampling, analysis, and monitoring services as requested by the Government. These services include, but are not limited to, the following areas:

a. Incoming potable water quality monitoring;

b. Potable water system monitoring;

c. Domestic waste water effluent sampling;

d. KSCVC water feature sampling.

4.7.3 Investigative Environmental Sampling, Analysis, and Monitoring, and Reporting

The Contractor shall provide specialized investigative, monitoring, sampling, laboratory analysis, and advisory support to real-time requests, incidents, and/or complaints, such as, but not limited to, the following areas:

a. Drinking water complaints;

b. Potable water line breaks.

4.8 Ecological Monitoring Program

The Contractor shall support the ecological program at KSC. The goals of the ecological program are to ensure that NASA KSC operations are conducted in compliance with Federal and state regulations, including the NEPA, EOs, and NASA

policies and ensure activities at KSC have minimal adverse impacts on local and regional natural resources. The Contractor shall implement a science based, long-term monitoring program directed at launch operations and overall Center operations as the Center transitions to a multi-user Spaceport. The ecological monitoring program will address future Center risks such as special concern species, climate change, land management needs, emerging contaminants, and encroachment to ensure a sustainable future. The Contractor shall monitor, evaluate, and report on ecosystem health Center-wide; providing consultation, ensuring trends, and making recommendations for improving ecosystem health. The Contractor shall develop an annual Ecological Monitoring Plan, as described in DRD 4.8-001, Annual Ecological Monitoring Plan. The Contractor shall:

a. Perform threatened and endangered species work to include:

   - Conduct surveys of the threatened and endangered species and other species of interest identifying any behaviors, territorial size by telemetry tracking, and reproductive capacity. Report unusual findings such as significant changes in productivity, different location sites, and potential disease problems. Survey work shall utilize low altitude flights, field investigations, and GPS;
   - Record all survey data into the Earth Systems Modeling Data Management System (ESMDMS) as described in Section 4.9;
   - Collect and report population demographics including mortality figures and any potential fatal diseases, such as the respiratory disease in gopher tortoises. Determine the root cause of significant mortality rates;
   - Identify significant habitat characteristics for threatened and endangered species;
   - Work in partnership with the U.S. Fish and Wildlife Service (USFWS) and National Park Service (NPS) to assess special concern species (plant and animal) status across the Cape Canaveral Barrier Island complex. Obtain USFWS permits for all activities;
   - Define suitability of various habitats to sustain populations of these threatened and endangered species. Define and map habitat of threatened and endangered species utilizing the ESMDMS as described in Section 4.9.

b. Perform biological assessments and preliminary biological assessments for all projects that may impact threatened and/or endangered species or their habitats. Assessments are performed in a manner that satisfies the requirements under Section 7 of the Endangered Species Act (16 U.S.C. §1531). Explain and defend the technical conclusions of the assessments with the appropriate regulatory authorities when required. Prepare biological assessment documentation appropriate for submittal to the USFWS. Biological assessments and surveys shall be conducted and reported in such a manner as to satisfy regulatory requirements associated with threatened and endangered species protection and development of biological opinions;

c. Maintain a spatially explicit population model for Florida scrub jays adapted to the specific needs of KSC and the Merritt Island National Wildlife Refuge. In particular, the model should be able to utilize multiple GIS layers representing temporal changes in landscapes. Conduct demographic surveys, territory mapping, and habitat state mapping and modeling in support of the Adaptive Resource Management strategy. This model will be linked back to the demographic performance of scrub jays within affected areas, providing a quantitative framework for evaluating impacts;

d. Monitor sea turtle nesting success, population trends and densities, as well as lighting impacts. Prepare Disorientation Event Report form every time a disorientation is noted and in coordination with the Government, submit directly to the Florida Fish and Wildlife Conservation Commission and where applicable to the USAF;

e. Continue existing long term ecological monitoring. Current long term ecological studies include: sea grass mapping and transect monitoring, manatee population monitoring, marine mammal surveys, sea turtle nesting and hatchling surveys, terrestrial vegetation monitoring, eagle nest monitoring, scrub jay population demography, wading bird and small mammal surveys, and alligator monitoring. Provide monthly status reports of turtle nesting surveys during the turtle nesting season (May through October) and quarterly status reports on vegetation monitoring and small mammal surveys;

f. Prepare an annual summary of animal use in accordance with DRD 4.8-002, Annual Summary of Animal Use Report. For all monitoring activities involving the use of vertebrate animals prepare and update as needed, the necessary Animal Care and Use Committee documentation required to ensure compliance with 14 CFR Part 1232, Care and Use of Animals in the Conduct of NASA Activities, and provide a member to the Institutional Animal Care and Use Committee per C-0023, Institutional Animal Care and Use Committee;

g. Maintain records and inventories on controlled substances used to conduct animal research activities in accordance with applicable state and Federal laws and regulations, including the requirements as set forth by the United States DEA. These records shall include proper receipt, records of storage and inventory, and proper disposal;

h. Conduct special studies in support of documenting the Government's stewardship of the environment and support outside scientific investigations. Current special studies include: remote sensing of land cover types, shoreline restoration habitat monitoring, wetland restoration monitoring, nearshore fisheries and inshore lagoon fisheries telemetry, long term habitat restoration and mitigation monitoring, climate change adaptation strategies, and fire management applications that including modeling implementation and vegetation response;

i. Evaluate potential impacts to wildlife and habitat associated with construction, facility siting, line-of-sight, and right of ways;

j. Determine effects of water level, salinity, and fire on the local ecology. Place significant emphasis on understanding fire ecology;

k. Continue to perform routine vegetative transect surveys. Establish and monitor new vegetation transects to assess vegetation response to ground and surface water rise, fire and other land management strategies prescribed by the USFWS and NPS. Review and update the special concern vegetation database and herbarium collection to ensure taxonomic ids and specimen quality and assist the USFWS invasive/exotic species management actions by documenting locations of taxa and responses to various treatment and removal actions. Coordinate with and provide technical input into the habitat management activities of the USFWS and the NPS;

l. Manage and update the Center's vegetation databases, referenced in Section 4.9, in conjunction with obtaining low-altitude and satellite remote sensing, along with various historical photographs to identify change in Center ecosystems or land uses and report potential environmental/ecological impacts; submit quarterly status reports to the Government;

m. Conduct long term air quality monitoring, in accordance with DRD 4.8-003, Long-Term Air Quality Monitoring Plan, to assess local and regional trends in atmospheric criteria pollutants and support development of NEPA documentation. The Contractor shall operate one existing permanent air monitoring station;

n. Conduct spatial and temporal rainfall monitoring program to compile long term trends in rainfall patterns, regional and local variability estimates, runoff modeling, fuel moisture estimates, wildfire potential estimates and data. The Contractor shall operate one existing permanent National Atmospheric Deposition Program (NADP) site;

o. Operate and maintain long-term ecological sampling sites for monitoring selected pollutants in surface and ground water;

p. Maintain the spatial and temporal lightning database identifying long term trends and spatial patterns of lightning strikes, wildfire potential models, fire ignition probability estimates and correlations with known wildfires;

q. Maintain the USAF and KSC Wind Tower and Rawinsonde Database to provide near-time information on wind speed, wind direction, temperature and humidity for dispersion, fire and noise modeling, storm documentation and spatial and temporal trends across the region;

r. Support NASA and Academia in research activities on KSC by assisting the Government in proposal and grant writing in association with other agencies,

industry, or universities with the goal of improving information and knowledge needed for informed decision making in the dynamic east Central Florida region;

s. In coordination with the Government, publish results in peer-reviewed literature, present scientific data at professional meetings, and support an active education outreach philosophy that includes development of partnerships and research associations with universities and other organizations.

4.9 Earth Systems Modeling and Data Management

The Contractor shall continually enhance, operate, and maintain the existing comprehensive data management and visualization application, the ESMDMS, to evaluate ecological and environmental monitoring and cultural resources data. The ESMDMS is described in Section J, Attachment J-16, Government-Furnished Legacy IT Systems. The Contractor shall provide timely and accurate data to users. Data sets will include threatened and endangered species habitat, submerged aquatic vegetation, soils, surface waters, terrestrial land cover, cultural resources, etc. The Contractor shall document the models that are developed and used as part of these applications. All data associated with the system shall be protected and backed-up to prevent losses. The Contractor shall:

a. Manage the applicable software lifecycle(s), including software framework and models to comply with NPR 7150.2, NASA Software Engineering Requirements;

b. Facilitate a Configuration Control Board (CCB) to approve and prioritize requirements and design changes. The CCB shall have representation from the Government, the user community, and other key stakeholders. The Contractor shall create and maintain a CCB charter, defining approval authority and other protocols. At a minimum, the CCB shall meet monthly or at a frequency defined in the CCB charter;

c. Identify and document users of the software tools;

d. Develop and document concept of operations and functional requirements for new features proposed by the user community;

e. Identify, prepare, and track software metrics, as defined by the Government, and present to CCB quarterly;

f. Generate a customer satisfaction survey, distribute to user community, and present to CCB quarterly;

g. Manage the existing web portal to share geographic data, maps, and analytical models;

h. Maintain existing datasets and data acquisition systems for wind towers, Rawindsonde data, ACTA forecast data, Next Generation Radar data, Tropical Rainfall Measuring Mission data, Permanent Air Monitoring Station data, NADP data, landcover maps, VEMCO data, vegetation data, water quality data, eagle

nest record, sea turtle data, fire history data, historic shuttle program launch cloud data, beach mouse data, wading bird data, climate change data, alligator data and other existing or new datasets created during this contract. Provide meta-data as needed to ensure future utility;

i. Develop an annual action plan in conjunction with KEMCON scientists that defines tasks and schedules to ensure progress in database development, data visualization tool development and map production generation;

j. Provide expertise in the area of remote sensing, image processing, image interpretation, Light Detection and Ranging (LIDAR) processing, digital elevation model development, and other GIS applications and tools;

k. Develop and utilize a variety of modeling approaches and data mining to guide and assist the monitoring activities of the Ecological Program scientists (e.g., specific habitat characteristics or species locations, habitat quantities, encroachment upon those resources, changes to these resources over time);

l. Continue to refine the ecological response model for the purpose of simulating habitat responses to climate change and land management strategies;

m. Conduct dataset simulation for use in study, design, and analysis for existing and new studies and provide user interface to enable scientists to pose queries on the datasets;

n. Develop models for use with monitoring data associated with long term ecological monitoring activities (scrub jay, southeastern beach mouse, vegetation, etc.).

4.10 Launch Monitoring

The Contractor shall support KSC launch operations by providing the following services:

a. Operate an Environmental Evaluation Console (EEC) in support of NASA launch operations in accordance with countdown documentation;

b. Operate and maintain computer models such as the Rocket Exhaust Effluent Diffusion Model, recognize and recommend corrective measures for problems in the models, interface with the USAF Range Safety personnel conducting catastrophic launch vehicle modeling, provide real-time predictions to the launch team and emergency response personnel on model outputs, and maintain Government-provided computer and display systems associated with the EEC to ensure readiness to support launch milestones;

c. Develop and support the development of launch emission modeling and display tools;

d. Perform in-situ examination and sampling of vegetation, soils, surface waters, fish, and wildlife to determine the extent of impact to flora and fauna, both acute and chronic, resulting from NASA launch operations at KSC. The results of this

monitoring will be documented in an environmental database, defined in Section 4.9, for the ecological assessment of long term trends and chronic impacts, including potential for bioaccumulation. Prepare post-launch ecological monitoring report in accordance with DRD 4.10-001, Post-Launch Ecological Impact Report.

4.11 Agency Support for Recycling and Sustainable Acquisition

The Contractor shall support NASA's Principal Center for Recycling and Sustainable Acquisition (RSA). The Government will provide the Contractor with direct requirements in a yearly task plan; however, at a minimum, the Contractor shall:

a. Support Agency data calls, prepare and assist in the preparation of strategic plans and reports, and develop and track performance metrics as dictated by the NASA Environmental Management Division;

b. Provide technical support to NASA Center and Agency personnel related to new developments and technologies, resources, best practices and new regulatory or Agency requirements pertaining to recycling and sustainable acquisition;

c. Prior to each Agency EEFR, provide an evaluation of the contracts from the Center being reviewed, assessing their progress in meeting EO 13423 and 13514 sustainable acquisition goals and produce a report reflecting program effectiveness and compliance trends, including opportunities for improvement;

d. Provide general research assistance and consultation to the NASA RSA community and Agency staff in relation to recycling and sustainable acquisition functions and policy development;

e. Maintain Agency and public RSA websites. Provide content review on a quarterly basis, identifying gaps in information and knowledge available to the NASA RSA community. Maintain a site for sustainability-related news at NASA along with RSA and sustainability best practices and lessons learned from all NASA Centers and other Governmental institutions;

f. Develop, plan, coordinate and/or implement outreach and educational activities including, but not limited to, seminars, conferences, workshops, short courses, and other programs related to sustainability at NASA, as requested by the NASA Environmental Management Division.

4.12 Environmental Task Order Content

The Contractor shall perform IDIQ task order services when directed by the Government. Task orders may include:

a. Well installation and abandonment services;

b. Establishment and operation of hazardous and/or controlled waste sites for waste generators/customers;

c. Archeological surveys to include Phase I, II, and III;

d. Historic property surveys such as preparation of mitigation plans for historic properties adversely affected by NASA activities; mitigation actions including preparation of Historic American Buildings Surveys and/or Historic American Engineering Record documentation; final mitigation reports; and development of educational materials regarding historic properties;

e. Specific historic property management studies, such as performing ad hoc cultural resources surveys and analysis to include performing field surveys of historic properties to determine their integrity, performing records (photo and engineering drawing files) searches to support historic property reviews, inspect work sites to ensure historic property integrity is maintained during facility modifications and conduct interviews;

f. Updates to KSC-PLN-1733, KSC Cultural Resources Management Plan;

g. Environmental Baseline Surveys of facilities to support property transfers between NASA and other parties to include the USAF and enhanced use leases, and other real property transfers;

h. Preparation of Environmental Assessments and Environmental Impact Statements in accordance with the NEPA and NPR 8580.1.

5.0 AIR FORCE SERVICES

5.1 Administration and General Requirements

The Contractor shall:

a. Ensure that all Contractor employees providing services to the USAF meet all training, certification, and licensure requirements as dictated by applicable sections of this PWS;

b. Maintain internal document records of all administrative and operational procedures such as records of employee certification and training, clinic certifications, reports, and other auditable activities;

c. Submit monthly job order costs to the USAF standard Job Order Cost Accounting System (JOCAS), in accordance with attachment J-17, JOCAS Report Format, while maintaining the capability of identifying costs to a daily level. Strict observation of USAF program funding year costs is essential;

d. Ensure all incurred costs are captured and submitted to JOCAS by the 10th day of the month. Three additional weeks shall be allowed for all subcontractor costs to be submitted to JOCAS;

e. Isolate and Identify erroneous or incomplete data;

f. Provide a monthly summary report.

5.2 Air Force Medical Services.

The Contractor shall provide medical services to the 45th Space Wing (45 SW) and 45 SW contractor organizations, 45 SW tenant personnel, 45 SW guests and specified personnel described in specific paragraphs below, who are resident at CCAFS and KSC. The Contractor shall provide a report on these provided services in accordance with DRD 5.2-001, Medical Services Provided to the USAF.

5.2.1 Air Force Occupational Medicine

The Contractor shall provide the USAF health examinations at the NASA-KSC OHF, and utilize the medical record system referenced in section 2.1. All health exam requests must be approved by the USAF. Health examinations shall be administered in accordance with KSC-UG-1800, John F. Kennedy Space Center (KSC) Medical Standards User Guide, and are required to satisfy various programs such as the FEHP and OSHA standards. The Contractor shall:

a. In coordination with the NASA-KSC and USAF medical officers, develop and maintain NASA-KSC physical examination classifications for USAF-provided health examinations in accordance with current NASA-KSC health examination classification standards;

b. Ensure the portability of any medical data to allow its transfer to other systems if required by the USAF;

c. Provide appropriate return to work clearance or duty limitations to patients and their employers;

d. Refer patients to their personal physician when significant abnormal conditions are discovered at the time of scheduled certification physical but which in themselves are not related to the patient's employment. Information on the evaluation and treatment shall be requested from the personal physician to determine any effect on employment or need for work limitations.

5.2.2 Medical Consulting Services

The Contractor shall:

a. Provide consultation services to the 45 SW Medical Group Commander (45MDG/CC) or designee to include evaluation of the workplaces identified on CCAFS by the 45 MDG/CC or designee to make recommendations with regard to physical examination requirements for specific jobs or generic job categories based on assessment of the demands of the job and the environment in which it is accomplished. Evaluations shall address specific health and safety concerns of the Government and KEMCON Contractor that are unique to the job or work area and supplemented by environmental studies accomplished by EH specialists to support appropriate OM recommendations;

b. Review policies, documents, plans, and procedures as directed by the USAF;

c. Support USAF Medical Inspections and Health Program review/audits, including OSHA on-site VPP readiness and on-site reviews, and subsequent development of appropriate corrective action plans;

d. Review occupational exam results and track and trend findings and report to the USAF at least quarterly;

e. Provide other OM services as required by applicable state and Federal standards and regulations.

5.2.3 Clinical Laboratories

The Contractor shall provide CAP certified clinical medical laboratory services in accordance with Section 2.8 to the USAF.

5.3 Air Force Environmental Health Services

The Contractor shall provide EH services to the 45 SW, USAF contractor organizations, and 45 SW tenants located at the CCAFS and at off-station locations within 75 miles of NASA-KSC and the Jonathan Dickinson Missile Tracking Annex (JDMTA). The Contractor shall:

a. Provide EH services on first shift, excluding KEMCON Contractor holidays. The Contractor shall also respond to off-shift customer activities requiring Contractor participation, to support scheduled operations and emergency response activities within 2 hours;

b. Work directly with the 45 SW Bioenvironmental Engineering Office to develop work assignments, assess risks, recommend engineering controls, quantify exposures, and analyze impact of new regulations and technologies;

c. Identify, evaluate and recommend corrective actions for identified health hazards and non-compliance conditions. The Contractor shall analyze past data and perform trend analysis to develop exposure and environmental assessment strategies;

d. Generate and maintain documentation for the EH program including reports for compliance requirements. The Contractor shall comply with applicable USAF Air Force Instructions (AFIs), Air Force Occupational Safety and Health Standards (AFOSH), Air Force Manual (AFMAN), Space Wing Instructions (SWIs), and Technical Orders (TOs);

e. Maintain internal document records of all administrative and operational procedures required for the implementation of EH functions such as records of employee certification and training, fieldwork, reports, and other auditable activities;

f. Provide consultation services to review policies, documents, and plans to determine the adequacy of preventive measure and controls, and ensure compliance with applicable USAF and OSHA regulations and requirements;

g. Provide technical and administrative assistance to the 45 SW in implementing its regulatory interface requirements;

h. Participate in program audits, and assist in development and implementation of appropriate corrective action plans;

i. The Contractor shall provide a report on services provided in section 5.3.1, 5.3.2, 5.3.3, and 5.3.4 in accordance with DRD 5.3-001, Air Force Environmental Health Services.

5.3.1 Emergency Response

The Contractor shall:

a. Participate in planning and response for chemical, biological, radiological, nuclear, and hazardous materials emergency activities and participate in exercises at CCAFS (such as hazardous material incidents);

b. Provide biological sampling capability (e.g., white powder incidents) for CCAFS, using government-furnished monitoring and detection equipment/reagents with a

sample analysis turn-around time of 5-10 minutes and provide personnel training for field screening capability of specified biological agents;

c. Provide a 24-hour on-call response to unscheduled operations including emergency response requirements for hazardous material incidents;

d. Participate in 45 SW rapid response teams for spacecraft operations. Deployment and specific composition of the team shall be determined in coordination with the 45 SW;

e. Provide and maintain the appropriate equipment and supplies for required EH services.

5.3.2 Industrial Hygiene

The Contractor shall:

a. Provide baseline and follow-on health hazard assessments of operations and procedures, including construction activities for chemical and physical hazards. The Contractor shall schedule surveys in coordination with customers. Conduct follow-on surveys at least annually when baseline data show significant potential for exposures to hazardous agents or more frequently as directed by 45 SW Bioenvironmental Engineering; when the customer identifies any process or operational changes that may affect the potential or type of exposure; or as required by OSHA or USAF regulation;

b. Investigate workforce complaints of potential workplace hazards and coordinate with affected employees and the appropriate organizations to resolve issues where appropriate;

c. Provide expert consultation in confined space hazard assessment; manage the 45 SW inventory of confined spaces located at CCAFS and offsite 45 SW locations, excluding PAFB; perform confined space hazard assessments, provide recommendations and requirements for confined space entry and work, and perform atmospheric monitoring in support of confined space entry operations;

d. Provide IH services to launch and processing operations such as downwind monitoring of hypergolic propellant transfer operations, hypergolic propellant storage area open-up, oxygen deficiency monitoring and launch pad safing operations;

e. Perform sampling and analysis of air contaminants associated with hazardous operations and processes using both real-time and time-weighted-average sampling methods;

f. Provide an exhaust ventilation system testing program to include an inventory of all ventilation systems used to control hazardous air contaminants generated by hazardous operations and processes;

g. Provide a breathing air system testing program, to include an inventory of, testing of, and permitting of all CCAFS-operated compressor-supplied breathing air systems and inspections and testing of supplied air to meet OSHA, and USAF requirements;

h. Provide expert consultation in heat illness prevention and perform heat illness hazard assessments in accordance with AFMAN 48-151;

i. Provide expert ergonomic consultation; conduct Musculoskeletal Disorder (MSD) hazard assessments;

j. Provide expert consultation in respiratory protection; deployment of emergency use respirators; and perform hazard assessment of air contaminants;

k. Provide expert consultation in noise hazard assessment and hearing loss prevention; assess noise hazards, engineering controls and hearing protection personal protective equipment.

5.3.3 Sanitation and Public Health

The Contractor shall provide the following services in accordance with USAF standards:

a. Sanitary surveys of food service facilities (including vending machines), barber shops, recreation and exercise facilities, special events, and local establishments from which mobile food facilities are sourced;

b. Inspection of chemical toilets;

c. Conduct disease vector investigations;

d. Identification of training and certification requirements in the EH aspects of food service sanitation for all food service employees; these training requirements shall be identified for USAF contractors;

e. Consultative services to USAF and USAF contractors in fulfillment of their Federal and state regulatory obligations/compliance;

f. Specialized investigative, sampling and analysis, and advisory support to real-time incidents, and/or complaints to include foodborne illness investigations, potable water incidents, disease vector reports;

g. Coordination of food recalls to affected 45 SW organizations;

h. Specialized consultation to food service operators on the development and maintenance of HACCP plan development and implementation;

i. Investigate animal bite incidents; ensure appropriate treatment of victim and coordinate with appropriate local authorities;

j. Provide mosquito surveillance support for the 45 SW.

5.3.4 Health Physics

The Contractor shall:

a. Perform assessment of personnel hazards in USAF (including tenants) radiation use areas;

b. Maintain a current inventory (to meet regulatory requirements) for all identified radiation sources and radiation producing devices in use or in storage;

c. Perform radiation surveys, evaluations, sampling, analysis, and audits as directed by the 45 SW Bioenvironmental Engineering Office to ensure compliance with USAF, state, and Federal regulations;

d. Maintain equipment for use in performing field surveys and analysis of ionizing and non-ionizing radiation hazards;

e. Manage a personnel ionizing radiation dosimetry program for radiation workers requiring dosimetry. Identify personnel to be monitored, issue appropriate dosimeter, assess and assign radiation dose, and maintain exposure histories as required by applicable regulations. Provide technical expertise and support for special dosimetry applications;

f. Process RURs and associated documents, and drafting of RUAs;

g. Collect, monitor, and store low-level radioactive waste, and maintain and operate a dedicated storage area for material awaiting disposal or transfer;

h. Advise USAF personnel and USAF contractors on compliance with Federal and state regulatory requirements;

i. Provide radiation monitoring assistance to the Brevard County Emergency Operations Center when directed by the 45 SW Bioenvironmental Engineering Office;

j. Participate in Federal and state inspection visits. Notify 45 SW Bioenvironmental Engineering when Federal and state inspectors visit CCAFS;

k. Provide HP services to launch and spacecraft processing operations.

5.4 Air Force Hazardous and Controlled Waste Management

The Contractor shall provide waste management services to the USAF and USAF tenants/contractors organizations at CCAFS, PAFB, Melbourne Beach, Malabar Transmitter Annex (MTA), and JDMTA. Ensure all electronic submittal/request processes available on KSC are also available/accessible for all 45 SW generators. The Contractor shall provide:

a. Waste characterization services. The Contractor shall:

- Provide waste characterizations on a routine and emergency basis to determine if wastes generated are hazardous or controlled in accordance with applicable Federal regulations and the proper method of disposal for those wastes (e.g. off-site disposal, recycling, on-site disposal in a FOTW);
- Maintain a database of all waste characterized and disposed of;
- Provide waste generators an updated waste determination as required;
- Respond to a routine waste characterization within 7 work days from the date of request;
- Respond to an emergency waste characterization within 1 work day from the date of request.

b. Industrial Wastewater Discharge Authorization for use of the domestic waste water system for industrial waste water disposal. The Contractor shall:

- Coordinate pre-treatment standards and authorizations with the USAF's contractor responsible for the operation of the CCAFS domestic wastewater plant;
- Ensure that only those discharges that meet pre-treatment standards and authorizations are allowed to be discharged into the domestic waste water system.

c. Pick-up services for hazardous and controlled wastes. The Contractor shall:

- Provide routine and emergency pick-up services for hazardous and controlled wastes for all 45 SW generators from satellite or controlled waste accumulation sites and deliver them to a <90 day accumulation site and/or from satellite, controlled waste or <90 day accumulation sites and deliver them to on-installation TSDFs at CCAFS or PAFB. Controlled wastes include materials which cannot be disposed as domestic sewage or without constraints in a RCRA Subtitle D landfill. Radioactive materials and sanitary wastes are excluded from support under this PWS;
- Provide a waste support request process;
- Respond to routine pickup/removal requests within 10 calendar days from time request was received;
- Respond to emergency pickup/removal requests within 2 hours from time request was received;
- Ensure packaging, labeling, marking, and manifesting of waste containers to be removed are in accordance with applicable DOT and RCRA regulations prior to removal from the generating site;
- Ensure hazardous waste destined for delivery to on-installation TSDFs at CCAFS and PAFB meet all permit requirements including the waste codes allowed to be stored;

- Use existing manifest system to document all on-site movement of hazardous and controlled waste.

d. Pick-up and disposal services for non-hazardous petroleum solids generated at CCAFS to be managed at the KSC TSDF;

e. Off-site treatment or disposal of hazardous and controlled waste. The Contractor shall:

- Provide off-site disposal of hazardous and controlled wastes;
- Complete waste profiles required by the off-site TSDF;
- Ensure packaging, labeling, marking, and manifesting of wastes are in accordance with applicable DOT and RCRA regulations prior to off-site shipment of wastes for treatment or disposal.

f. Pick-up, management, and recycling services for used oil, oily waste water and petroleum products, universal wastes, shop rags, coolant, and other waste streams. It is the Government's expectation that the Contractor will seek out opportunities for recycling for these types of waste streams;

g. Guidance, authorization, and tracking for on-site disposal services for hazardous wastes (e.g. propellant related waste) that include:

- Interpretation of regulation and regulatory guidelines applicable to hazardous waste disposal on-site (e.g. FOTW) to determine if specific waste streams qualify for on-site disposal;
- Maintaining a written record of the determination;
- Communication to the Government of any potential regulatory notifications (including one-time notices) as they are required for on-site treatment or disposal of hazardous waste;
- Providing authorization of on-site treatment;
- Maintaining records of dates and quantities disposed/treated and provide an annual report, in accordance with DRD 5.4-001, USAF On-Site Hazardous Waste Disposal Report.

h. Waste sampling services for analysis of potentially hazardous or controlled wastes. The Contractor shall provide a customer request process for waste sampling services on a routine and emergency basis. The sampling for a routine request shall be performed within 5 work days from date of request. The sampling for an emergency request shall be performed within 2 hours from time request was received. Analysis of routine samples shall be provided within 14 work days from sampling date. Analysis of emergency samples shall be provided within 3 work days from sampling date;

i. Reports:

- Cost Report for hazardous, universal and controlled wastes shipped off-site for treatment/disposal/recycling in accordance with DRD 5.4-002, USAF Waste Disposal and Treatment Cost Report;
- The amount of waste recycled by location, cost and quantity to include used antifreeze, used industrial wipes (rags), and used oil in accordance with DRD 5.4-003, USAF Waste Recycling Report;
- Provide a quarterly report of all USAF waste sampling in accordance with DRD 5.4-004, USAF Waste Sampling Cost Summary Report;
- Provide a quarterly report identifying all analyses conducted on USAF waste samples at contractor lab in accordance with DRD 5.4-005, USAF Waste Analysis Cost Summary Report;
- Provide a quarterly report identifying Waste Characterization costs in accordance with DRD 5.4-006, USAF Waste Characterization Cost Summary Report;
- Report all labor costs associated with services provided under this PWS that are not included in other reports in accordance with DRD 5.4-007, USAF Detailed Hazardous, Universal and Controlled Waste Labor Costs Report;
- Provide an annual report detailing the subcontracted cost for disposal of all waste streams by commodity and container in accordance with DRD 5.4-008, USAF Waste Stream Pricing Report.