

I. GENERAL DESCRIPTION/SPECIFICATIONS:

- C.1.1. Scope: The contractor shall provide management, supervision, personnel, labor, transportation, materials, and supplies to accomplish the work required by this performance work statement (PWS), to plan, operate, maintain, repair, install and remove Real Property and equipment for Alaska Aerospace Corporation at Pacific Spaceport Complex-Alaska (PSCA) on Kodiak Island, AK, and provide related services as specified, in strict accordance with all terms, conditions, general and special provisions contained herein or incorporated herein or incorporated by reference. The contractor shall perform planning, programming, administration, and management necessary to accomplish all duties in this PWS. The contractor shall adhere to the contract and to all applicable federal, state, and local laws, regulations, codes, or directives. The contractor shall ensure work meets or exceeds critical reliability rates or tolerances specified or included in this contract or applicable referenced documents, which are necessary and related to the function being performed. The contractor shall provide related services, such as, preparing and providing required reports, compiling historical data, performing administrative work, and submitting necessary information, as specified.

The following functional areas are covered in this contract:

Work Management and Scheduling

Roads - Equipment Dispatch and Accountability

Grounds upkeep

Environmental compliance

Woodworking and Carpentry

Sheet Metal Work

Facility and Ground Maintenance and Repair

Painting of facilities and equipment with commercial products

Glass replacement and repair

Equipment Fleet Maintenance and Repair

Supply and Storage

High Voltage Electrical Distribution Systems (secondary lines) and Emergency Power Backup Generation

Range Safety Telemetry System Operations and Maintenance

Antenna Field Asset Maintenance

Interior Electrical Systems

Electrical/Electronic Control Systems

Water/Fuel/Sewage -- Plant Operation and Distribution

Plumbing Service

Refrigeration, Air Conditioning, Compressed Air, Vacuum, Mechanical Ventilation,

Kitchen and Evaporative Cooling Equipment and System

Purchasing and Logistics

Environment, Safety, and Occupational Health

Ground Safety Operations

Comfort Heating, Domestic Hot Water, Soft Water,

All work to be completed in response to the requirements of this contract shall be done in an energy, economical, and overall efficient manner.

C.1.2. Personnel

C.1.2.1 Key Personnel: The contractor shall provide designated key personnel. If key personnel substitutions or changes occur, the contractor shall immediately notify the Contracting Officer of such change(s). Key personnel identified below are required to have and maintain a SECRET security clearance.

Project Manager

Site Manager

Operations and Maintenance Supervisor (or Facility Operations Engineer)

C.1.2.2 Project Manager: The Project Manager or alternate shall be available during the regular business hours, on call 24 hours a day, and shall be empowered to make all decisions and financial commitments on all matters within the scope of the contract. These individuals shall be designated in writing (listing name, address, and home telephone number) to the Contracting Officer 10 days after contract award date. The project manager shall provide the overall management and coordination of this contract and shall be the central point of contact for The AAC for all matters pertaining to this contract. An alternate shall be designated to act for the project manager when the project manager is absent. The project manager and the alternate shall both be able to understand, speak, read and write the English language. The contractor shall provide at least two (2) hours advance notice to the Contracting Officer whenever an alternate project manager has responsibility for the contract.

C.1.2.3 Other Personnel: The contractor shall furnish supervisory, technical, administrative, and clerical personnel to accomplish all work required by this contract.

C.1.2.4 Special Qualifications/Certifications: The contractor shall use, at work site, personnel of a sufficient skill level, e.g., helper, journeyman, master, certified, etc., within each trade area to ensure that work performed under this contract meets or exceeds the standards contained in this contract. The contractor shall provide a copy of the certifying and re-certifying document for each employee that contains their qualifications to operate the systems listed below, to the Contracting Officer, 15 working days prior to contract full performance date, prior to new employee's first work date, or upon completion of any required special training for contractor employees. The contractor may subcontract work that is proprietary in nature or requires special certifications such as R stamp for boiler repair on a valid work document approved by the AAC. The contractor may choose to recommend AAC subcontract work that is outside their skillset.

- (1) Equipment operators: The contractor shall have all personnel operating mobile equipment and vehicles shall possess a valid operator's license issued by the State of Alaska. Operators of mobile equipment and vehicles of 5 ton and greater capacity, or of vehicles using emergency (red, white, and/or blue) lights, shall possess a valid Government operator's permit, issued by the contractor Operations and Maintenance Dispatcher.
- (2) Refrigeration/Air Conditioning Work: The contractor shall have all Refrigeration and Air Conditioning mechanics, technicians, supervisors, and forepersons will be certified as a Universal certification in the handling of Chlorofluorocarbon and Halon gases IAW the Clean Air Act (CAA) of 1990 to perform all work involving these gases. The contractor shall ensure that mechanics with experience commensurate with the complexity of the equipment shall be trained and certified to service refrigeration and air conditioning equipment IAW the Clean Air Act (CAA) of 1990. The contractor may choose to recommend AAC subcontract work that is outside their skillset.
- (3) Boiler Maintenance: The contractor shall have all supervisors, operators, mechanics, and personnel performing the operations, repair, maintenance, modification, and installation work on heated pressure vessels, i.e., high and low pressure heating hot water boilers, steam boilers and other heated pressure vessels, shall have journeyman level experience in the class of work for which employed and shall be certified as a Boiler Operator/Technician to the National Institute for the Uniform Licensing of Power Engineers (NIULPE), 4th class certification level IAW 420-49. The contractor may choose to recommend AAC subcontract work that is outside their skillset.

(4) Electrical:

- i. High Voltage: High voltage electrician shall be journeyman certified electrician with a minimum of five years proven experience on high voltage electrical systems and have five years' experience with the National Electrical Codes.
- ii. Interior: Interior electrician shall be journeyman level electrician and have five years of experience with National Electrical Codes._
- iii. Controls: Control electrician shall be journeyman level electricians and have five years' experience with the National Electrical Codes and have five years' experience with the National Fire Protection Association (NFPA) Codes.

The contractor shall support AAC subcontracted C.S.A certified Fire Alarm Technicians for the repair of the fire alarm systems that they are working on.

- (5) Water and Wastewater: The contractor shall operate and maintain the potable water production, treatment, and storage; water distribution system; wastewater treatment and storage system; and sewage collection system IAW the current ADEC certifications for the systems listed with the Alaska Department of Environmental Conservation. The contractor shall have the operator in direct responsibility of the operators be certified at the grade of the systems and IAW: ADEC Certification. The contractor shall have certified operators who have direct responsibility of the operation of the systems.

The contractor shall have operators use the automation system to perform routine procedures based on the flow status of the wastewater plant. Other operations shall require the operator to operate the equipment with local control devices.

The contractor shall maintain on file the qualifying procedures to certify in joining piping by welding and other than by welding. The file shall be available to The AAC representative upon request.

- (6) Plumbing: The contractor shall ensure that craftsmen possess experience commensurate with the complexity of the plumbing equipment, to perform all work required. The contractor shall ensure that personnel are certified by the Federal, State, and Local regulatory agencies to perform all work on distribution and collection systems.
- (7) Contractor Quality Control: The contractor shall provide individual(s) solely responsible for quality control. Contractor Quality Control personnel shall have a minimum of five years proven experience on a full-time basis as a quality control inspector or a similar profession in facility or building maintenance or in the construction industry.
- (8) Computer: The contractor shall provide individual(s) responsible for tasks related to electronic management systems as specified in the contract. The contractor shall provide at least one individual possessing prior experience. Contractor shall provide at least one individual to perform Information Assurance Security duties.
- (9) Inspections/Certifications: The contractor shall provide individuals with qualifications as specified in appropriate regulations to perform inspections and certifications required in this contract.

C.1.2.5 Identification of Employees: The contractor shall plan and initiate an identification (ID) system to include each employee under this contract, to ensure accountability, and shall provide each employee an ID badge. The ID badge shall be approved by the Contracting Officer and include the person's name, picture, job title, and the contractor's name. Contractor personnel shall wear the ID badge so that the badge is always visible when performing work under this contract.

C.1.2.6 Conduct of Personnel: The Contractor shall be always responsible for the conduct of his employees while

performing work under this contract. Alaska Aerospace Corporation Chief Executive Officer has the authority, to restrict an individual from entry to PSCA for conduct determined contrary to good order, discipline, or installation security. AAC will issue a site access badges to all contractor employees.

C.1.2.7 Security of Classified Items. Industrial Security: For contingency planning purposes, the following contractor personnel require SECRET security clearances: The Project Manager, the Site Manager, the Operations and Maintenance Supervisor (or Facility Operations Engineer), and others as may be determined by the Contracting Officer. The contractor shall obtain security clearances IAW DOD ISM 5220.22-M.

The contractor shall have personnel performing work on Intrusion Detection Systems (IDS) require National Agency checks prior to being granted access to perform work on these systems.

C.1.3. Emergency/Disaster/Severe Weather Plan: The contractor shall, not later than sixty (60) days after award, prepare and submit a contingency plan for implementation in the event of a national emergency, natural disaster, or severe weather.

- (1) The contractor shall in the event of a work stoppage: determine how and where qualified personnel will be acquired; description of the recruiting procedures to be used, and the time frames that may be needed to secure such personnel.
- (2) The contractor shall have a description of the procedures which will be used to provide essential services such as priority I and II service order response and operate essential functions such as water and sewer plants, wells, distribution and collection systems, heating (in season), refrigeration, essential cooling, electrical substation, and distribution systems, etc. Identification, by position, of the personnel who shall be responsible for performing the emergency services shall be included.
- (3) The contractor shall update this plan as changes occur and shall submit a copy of the proposed plan to the Contracting Officer for approval not later than thirty (30) working days prior to the proposed effective date of the updated plan.

C.1.4. Operating Hours: The contractor shall provide personnel during the normal working hours of 8:00 a.m. to 4:30 p.m., Monday through Friday, except legal public holidays identified in State of Alaska calendar for varying schedules of up to 24 hours a day, 7 days a week to perform the requirements of unique mission specific contracts and for specific requirements, such as water treatment plant operation, heating and cooling operation as described in the Performance Work Statement: Normal work hours for personnel working under varying schedules shall be governed by the operational hours required under these schedules regardless of the time of day or day of the week the work is performed. The contractor shall provide contractor personnel, as required, at all other times to provide services on an overtime basis.

- (1) Call-out Working Hours: The contractor shall provide contractor personnel, as required, at all other times to provide services on an overtime or call-out basis. The contractor shall have fully qualified personnel available to satisfy emergency requirements. The contractor shall provide a designated point of contact to act as the call-out official for call-out work. The contractor shall provide call-out procedures within 15 days upon award of contract to the CO for approval.

C.1.5. Government Owned (GO) Contractor-Occupied Facilities: AAC will furnish - Government Owned (GO) facilities listed in PSCA Site Overview (Appendix A). The contractor is not responsible for any cost of repairs or maintenance in these facilities unless damage is caused by contractor negligence. The repairs or maintenance will be accomplished on a valid work document. Materials and work documents will be paid by AAC or any changes to the facilities will be approved by the CO. Comfort changes will be at the expense of the contractor.

C.1.6. Safety: The contractor shall comply with all rules of safety which are set forth in the following:

Public Law 91-596 (Occupational Safety and Health Act)
29 CFR, Occupational Safety and Health Act Standards Parts 1910/1990
Alaska Occupational Safety and Health (AKOSH)

The contractor shall take safety and health precautions to protect the work, contractor employees, the public, and State of Alaska and private property. The contractor shall ensure the use by employees of safety equipment and personal protective equipment and devices necessary to protect the individual. All safety equipment used shall be IAW OSHA and AKOSH standards, for example: Safety boots, hard-hats, safety glasses and goggles, ear plugs, rubber gloves for medium voltage work, and insulated ladders. The contractor shall post all notices of violations for hazards classified as Risk Assessment Codes 1 and 2 in the workplace or area where the hazards exist.

- (1) The contractor shall develop and submit for the Contracting Officer's approval, a Comprehensive Safety Plan and Program encompassing shop, job site, driver, general tool and equipment usage, and fire safety. The contractor shall submit the Plan and Program to the Contracting Officer 20 working days prior to full performance start date of the contract. The contractor shall update the plan as changes occur and shall submit a copy of the proposed plan to the Contracting Officer for approval not later than thirty (30) working days prior to the proposed effective date of the updated plan.
- (2) The contractor shall perform periodic inspections of safety equipment as required by federal and state OSHA standards and by regulations as listed in paragraph C.1.6. above.

C.1.6.1 Safety Instruction: The contractor shall provide initial indoctrination and such continuing instruction to employees as to enable them to conduct their work in a safe manner, and to recognize and report hazardous conditions. Initial indoctrination shall include instructions in safe practices; proper use, care and maintenance of tools and equipment; accident reports and individual responsibility for accident prevention. The contractor shall also develop procedures to ensure new hire employees are indoctrinated prior to work assignment.

C.1.6.2 Driver Safety: The contractor shall provide passenger and heavy equipment vehicle driver safety orientation, including refresher training on traffic rules, safe driving procedures, seasonal hazards, and related matters to contractor personnel who operate AAC furnished vehicles and equipment prior to their operating the vehicles.

C.1.6.3 Shop Safety: The contractor shall have contractor supervisors, particularly first line, ensure that workers observe installation and shop safety precautions.

C.1.6.4 Fire Safety: The contractor shall establish and maintain a comprehensive Fire Safety Plan. To ensure the safety of all personnel and protection of Government property, the contractor shall submit the Fire Safety Plan to the Contracting Officer for approval within 30 calendar days after contract start date. The contractor shall update the Fire Safety Plan as changes occur and shall submit a copy of the proposed plan to the Contracting Officer for approval not later than thirty (30) working days prior to the proposed effective date of the updated plan.

C.1.6.5 Flammables: The contractor shall comply with the National Fire Protection Association (NFPA) Codes and Standards Volume 3 for the storage and use of flammable mixtures which might constitute a fire hazard.

C.1.7. Physical Security/Key Control:

C.1.7.1 Physical Security: The contractor shall establish a Physical Security Program and Plan for all functional areas within 60 days after contract full performance date and submit a copy of the proposed plan to the Contracting Officer for approval.

The contractor shall update the plan as changes occur and shall submit a copy of the proposed plan to the Contracting Officer for approval not later than thirty (30) working days prior to the proposed effective date of the updated plan.

C.1.7.2 Personnel Escort: The contractor shall provide escorts in safety hazard areas where the contractor has prime work responsibility (such as electrical substations and vaults, equipment rooms, power lines etc.) for AAC and other contractor personnel who are performing work in these areas.

C.1.7.3 Key Control: The contractor shall establish and implement a key control program and shall maintain records to ensure that no keys issued to the contractor by AAC are lost, misplaced, or used by unauthorized persons. PSCA keys shall not be duplicated by the contractor unless authorized by a valid work document. The contractor shall report any occurrence of lost key(s) in writing to the AAC Facility Security Office (FSO) not later than one working day after discovery of the lost key. The report shall contain the following information: Key number, location(s) where the key accesses, date the key was discovered missing, and name of person signing for key.

C.1.8. In/Out Processing: The contractor shall submit an Employee In-Processing and Out-Processing Plan to the Contracting Officer within 30 days of contract award. During the contract, the contractor shall ensure that all personnel adhere to the established plan. Items to be identified in the plan include, but are not limited to, vehicle registration, ID card section, credit union, and security.

C.1.9. Manufacturer's Warranties: The contractor shall establish a system of monitoring and controlling warranties and guarantees for the facilities and equipment which are placed by this contract under his scope of work. The contractor shall process warranty claims on all equipment which is under manufacturer's warranties.

And shall obtain and safeguard manufacturer's equipment manuals for newly installed equipment. Manuals will become the property of AAC. Any current warranties to be maintained, will be provided to the contractor at contract start date and updated during the contract progress.

C.1.9.1 Vehicle/Heavy Equipment Operation: The contractor shall prior to operation of a vehicle/heavy equipment, the operator must possess a valid driver's license, as a prerequisite from any state. Employees assigned to operate equipment in performance of their contract shall be certified, by the contractor and at the contractor's expense, as being fully qualified to operate the vehicles/equipment to which they are assigned. The prime contractor shall document all operator qualifications. This document shall be provided to the administrative contracting officer before any contract employee engages in any mode of equipment operation. The administrative contracting officer shall retain documentation.

C.1.10. Maintenance Plan: The contractor shall develop and implement an operating plan for the implementation of a preventive maintenance program for the real property facilities listed in this contract, and for a recurring maintenance program for facilities engineering equipment listed in this contract. The plan shall address preventive maintenance and recurring maintenance separately.

C.1.11. Administrative Matters:

C.1.11.1 Correspondence: All correspondence shall be submitted within the established suspense dates. All extensions, releases, or other relief of suspense requirements shall be obtained from the originating office by the contractor.

C.1.11.2 Files and Records: Functional files and records furnished to the contractor at the start of this contract or initiated by the contractor under the provisions of this contract shall remain the property of AAC. Unless otherwise specified within this contract; shall be made available for review by any agency, or individual, designated within this contract or otherwise approved by the Contracting Officer; and shall be returned to AAC upon completion or termination of this contract.

C.1.12. Contract Progress Meeting.

C.1.12.1 The Contracting Officer, his authorized representatives, and other AAC personnel, as appropriate, will meet monthly with the contractor to review the contract performance. At these meetings, the Contracting Officer will apprise the contractor of how AAC views the contractor's performance, and the contractor shall apprise AAC of problems, if any, being experienced. The contractor shall also notify the Contracting Officer (in writing) of any work being performed that the contractor considers over and above the requirements of the contract. Appropriate action shall be taken by AAC to resolve outstanding issues.

C.1.12.2 Meetings between AAC and the contractor will be held biweekly during first 3 months of the contract. At a minimum, the meeting will include the project manager (or designee) and the Site Manager.

C.1.12.3 Minutes of these meetings will be recorded in writing by the Contract Specialist and provided to the contractor. Should the contractor not concur with the minutes, the contractor shall detail in writing any area of non-concurrence. Appropriate action will be taken to resolve any area of non-concurrence.

C.1.13. Deliverables: The contractor shall prepare and submit reports and other data incidental to the performance of services under this contract. The contractor shall prepare and submit reports and other data, not referenced elsewhere, as the requirement arises.

C.1.14. Police of Work Site: The contractor shall remove from the work area, at the end of each day and

completion of the job, all waste and material and by-products resulting from work performed. The contractor shall return usable material to a designated storage area for reuse.

C.1.15. Utility/Blue Stake Clearances: The contractor shall perform and provide utility/Blue stake clearances for “all requests” prior to any excavation.

C.1.16. Inspections: All facilities are subject to scheduled and unscheduled inspections for fire code compliance, condition code of components, and real property evaluation.

C.1.17. Quality Control System: The contractor shall implement and maintain a quality control system that identifies and corrects potential and actual problem areas throughout the entire scope of the contract. The contractor shall submit complete Quality Control System plans to the Contracting Officer 30 working days after contract full performance date. During the life of this contract, the contractor shall monitor his Quality Control System and update the plans as changes occur, submitting the proposed plan to the Contracting Officer for approval not later than thirty (30) working days prior to the proposed effective date of the updated plan. The contractor's Quality Control System shall:

- (1) Be independent from all other parts of the contractor's organization.
- (2) Be directly accountable to the contractor's Project Manager or Corporate Management.
- (3) Contain methods of direct and indirect communication with AAC regarding performance of the contract. Communication shall include regular and formal meetings with AAC.
- (4) Contain processes for corrective action without dependence upon Government direction.
- (5) Contain specific surveillance techniques for all contract services. The surveillance methods shall be comprehensive and adaptable to the reporting system of the plan.
- (6) Include a customer complaint program.
- (7) Include maintenance of records of all contractor Quality Control checks and corrective actions.

C.1.17.1 Effectiveness of Contractor Quality Control Plan and System: The contractor's Quality Control Plan and Operating System shall ensure that:

- a. No more than three unsatisfactory AAC inspection reports per calendar month result from AAC Quality Assurance inspections of contractor work effort in any single PWS functional area. This does not include data reporting and invoicing requirements.
- b. Contractor reports submitted to The AAC contain no greater than one-half of one percent (0.5%) data errors per report.

C.1.26. Workload Data Collection: The contractor shall collect workload data of the contractor's work accomplishment effort each month and shall provide that data to the Contracting Officer in the format of a letter due by close of business the 15th calendar day of the following month. The letter shall list the following data by each month:

- a. Quantity of Service Orders completed during each month and the average time required to complete all Service Orders for a functional area each month. Data shall be listed by functional area (PWS paragraph)
- b. Summary of Work Orders completed each month.
- c. Quantity of Recurring Maintenance hours completed during each month listed by functional area (PWS paragraph)
- d. Quantity of facilities completed, the total square footage completed, and total hours to complete facilities during each month for Post Preventive Maintenance.
- e. Total hours for operations for the month listed separately for each of the following:
 - Dispatch Operations Roads
 - Supply and Storage Operations
 - Water and Sewer Plant Operations
 - Heating and Cooling Plant Operations

- Equipment Fleet Health
 - Facility Health
 - Mission Support
- f. Total hours of scheduled overtime completed during each month listed by functional area (PWS paragraph).
- g. Total and average hours of unscheduled overtime completed each month listed by functional area (PWS paragraph).

2. Alaska Aerospace Corporation Furnished Property

AAC will provide property that is incidental to the place of performance.

- C.2.1. Incidental Property: AAC shall provide property incidental to the place of performance when the property used by the contractor within the location remains accountable to AAC. AAC shall also provide incidental property such as shop type: Bench Grinders, Air Compressors, Drill Presses and Bench Vices and reserves the right to repair and/or replace any Incidental property in the event they become unserviceable. If AAC exercises its right to not repair or replace these items, the contractor shall be responsible for replacement of these items to meet the terms and conditions of the contract.
- C.2.2. Facilities: AAC will furnish designated space in buildings. The contractor shall not make any alterations to the space without the written permission of AAC. Any request for alterations shall be in writing to the CO and shall be accompanied by a Work Request and proposal. The contractor shall request permission from the CO by the above process to restore the space to the condition in which it was received, at the time of contract completion or termination, unless AAC decides to accept the changes.
- C.2.3. Utilities: AAC will furnish heat, air conditioning, water, electricity, sewer, and other utility services currently available.
- C.2.4. Telephone Service: AAC will provide existing landline telephone service only for conduct of business and operations directly related to this contract. Business and operations directly related to this contract include calls made to acquire supplies or information directly related to technical operations. Calls related to contractor business operations are not considered official calls, will not be made using AAC phone lines, and will not be paid for by AAC. Telephones and cordless phones are also provided by AAC. The contractor shall not utilize AAC furnished telephone services for any use not directly associated with the requirements stated herein. The contractor shall control, and monitor contractor employee use of long-distance telephone circuits and contractor's employees shall reimburse AAC for personal calls. The contractor shall when any changes to the telephone services are required, e.g., system modifications, or removal of AAC furnished telephone instruments and telephone distribution systems, the contractor shall prepare and submit DA Form 3938 (Local Service Request) to the Contracting Officer for approval. Contractor personnel shall not relocate Government furnished telephone equipment or in any way tamper with the telephone distribution systems. The contractor shall notify the DPW Service Order Desk when customer service lines are interrupted.
- C.2.5. Petroleum, Oils and Lubricants (POL): AAC will furnish petroleum, oils, and lubricants used in the operation, repair, maintenance, and preventive maintenance of Facilities Engineering equipment, e.g., diesel fuel for operation of boilers and oil and grease for lubrication of Facilities Engineering equipment such as air handler bearings, pumps, motors, and air compressors. The contractor will be responsible for petroleum, oils and lubricants for all other equipment including special purpose vehicles (back hoes, bull dozers, graders etc.) and including fuel cans and containers.
- C.2.6. Parts, Tools, Equipment: AAC will furnish parts, tools, and equipment used in the operation, repair, maintenance, and preventive maintenance of Facilities and equipment as necessary.
- C.2.7. Emergency Medical Services: Medical services and all associated costs for the contractor's personnel are the responsibility of the contractor.
- C.2.8. Postal Service: AAC Anchorage Corporate, and Kodiak Offices, will pick up and distribute non-accountable mail correspondence, once a day for the contractor at a designated location. Pick up points will be provided in which the contractor shall receive official incoming correspondence, memoranda, and other related and necessary information for the contractor. Pickup points will be in Anchorage or Kodiak Corporate offices.
The contractor shall take outgoing official Government mail to the Office location which will be responsible for distribution. The contractor shall be responsible for any other courier services such as pickup and delivery of printing, forms, and publications.
- C.2.9. Information Technology (IT) Equipment: AAC will issue laptops and workstations to the contractor to utilize AAC network as needed. The contractor shall comply with the requirements of Information Assurance, in provision and use of all IT equipment and access to AAC systems.

- C.2.10. Forms and Publications: The contractor shall utilize AAC forms for all purposes for which they are designed for records and requirements contained in the contract. If a Government form is not available or is not appropriate for the required use of the form on the contract, the contractor shall design a form for the required use and submit a copy of the proposed form to the Contracting Officer for approval prior to use of the proposed form.
- C.2.11. Corporate SharePoint: AAC will provide a limited access to the Corporate SharePoint Site.
- C.2.12. Protective Clothing and Safety Equipment: AAC shall provide personal protective clothing and safety equipment for contractor employees as required by OSHA regulations.
- C.2.13. Office Furniture, Equipment, and Supplies: AAC will provide office furniture, equipment, and supplies as required for contractors support O&S activities at PSCA.
- C.2.14. Permits: AAC will obtain all appointments, licenses and permits required for performance of work and for complying with all applicable Federal, State and local laws. Evidence of such permits and licenses shall be provided to the Contracting Officer before work commences.

3. CONTRACTOR-FURNISHED PROPERTY:

C.3.1. Contractor Property. The Contractor shall provide all equipment, and items required to perform the requirements of this contract unless provided as incidental. All Contractor provided equipment shall be clearly marked and stored separately from AAC property. Upon completion or termination of this contract, the Contractor shall remove all Contractor-owned equipment/property. If the Contractor does not remove Contractor-owned items NLT thirty (30) calendar days after the conclusion of the contract, AAC will properly dispose of the items.

C.3.2. Permits: The contractor shall support the obtainment all appointments, licenses and permits required for performance of work and for complying with all applicable Federal, State and local laws. Evidence of such permits and licenses shall be provided to the Contracting Officer before work commences.

C.3.3. Operating Manuals: The contractor shall obtain and maintain a file on manufacturers' operating instructions and maintenance manuals on all new and rebuilt equipment installed by the contractor. These manuals and operating instructions shall become the property of AAC at contract expiration date.

C.3.4. Information Technology Equipment: The contractor shall furnish all IT equipment not otherwise furnished by AAC under C.2.9. for use in providing the services required under the contract. All contractor furnished IT equipment and software must be compatible with AAC furnished IT equipment and software. AAC shall maintain standard software configurations to include Microsoft software from the Enterprise Licensing Agreement for Contractor-Owned IT equipment accessing the NEC (Network Enterprise Center) server. AAC will retain ownership/license privileges of said software. Contractor shall remain in compliance with all information assurance requirements.

4. SPECIFIC TASKS:

The work, services, or performance of tasks provided by the contractor shall include the following:

- a. General and specific tasks as applicable to each area.
- b. All contractor provided services shall meet applicable standards specified herein and applicable Federal and State regulations, codes, or directives to include applicable equipment specifications and manufacturer's instructions and recommendations related to the equipment receiving the services, and inclusive of equipment or vehicles, supplies, parts, or materials utilized to provide the required services.
- c. Providing all supervision, labor, supplies, materials, parts, equipment, utilities, etc., except as specified as Government furnished, required to perform all work, to include all tasks specified in the Performance Work Statement (PWS).

C.4.1. WORK MANAGEMENT AND SCHEDULING

C.4.1.1 Scope: The contractor shall establish, manage, and operate a work control function. The contractor shall perform all work designated in five categories: Service Orders (SOs), Preventive Maintenance Orders (PM), Nonrecurring Work Orders (IJO's), Recurring Maintenance Orders (RM), and Plant Operations Orders. The contractor shall prepare all estimates and

provide up-to-date status of Work Requests from time of receipt to job completion, to the CO or company representative, and all customers upon request. The contractor shall establish work schedules for all work to be accomplished.

C.4.1.2 Warranty of Services: The contractor shall provide a warranty for all workmanship performed under this contract. This warranty of workmanship shall be for a one-year period after completion of services.

C.4.1.3 Rework: The contractor shall correct, as required, those maintenance deficiencies which are determined to be due to poor workmanship by the contractor, on services that fail during the warranty period. Rework shall be at no additional expense to AAC and will begin within five days from notification of deficiency. If a service order is generated for work that should have been rework, the contractor will notify AAC and the service order shall be cancelled.

C.4.1.4 Work Assignment: For required supplies, services, and/or construction work that falls under the guidance and purview of micro-purchase and simplified acquisition thresholds, AAC reserves the right to utilize sources other than this contact/contractor. AAC reserves the right to obtain the IJO work from other contracted sources with no obligation to pay the contractor for the cost of preparing a cost proposal for an IJO.

C.4.1.5 Management Information System (MIS): AAC utilizes automated systems to monitor expenditures, perform work management, supply management, and budget management functions and reporting and to provide real property inventory information. AAC extracts information from these automated systems for input into reports going through command channels, for internal management decisions, and for monitoring the contractor's work progress and effort. The contractor shall provide data as each event occurs and shall input that data into the AAC MIS to maintain files and databases in AAC MIS. Forms and Reports are identified below. Computer generated forms are acceptable as substitutes for forms listed in C.5.1. and subparagraphs:

Title	Use
Equipment Update Report	Maintain file of all Government mobile equipment and vehicles, their cost, rental, and depreciation cost.
Work Order	Request for work to be accomplished by the CO or company representative that will exceed limitations in C.5.1.6
Locally generated and approved versions.	Estimates and describes work by phase, facility number, work class; labor, material, and equipment costs; and costs related to other contractors. Used for non-recurring work orders.
Service Order (electronic form)	Identifies and establishes requirements for repair and minor construction that does not exceed limitations in C.5.1.6.
Formatted Form for Labor and Equipment Utilization	Records work accomplished. Prepared by the contractor (for contractor work).

NOTE: As stated above, AAC currently utilizes automated systems; however, the potential exists that these management information systems may be replaced by a successor system. In the event of an MIS replacement, the contractor will be notified in advance of the change and a modification will be made to the contract annotating the new system and its uses.

C.4.1.6 Contractor Work Accomplishment Reporting: RESERVED.

C.4.1.7 Contractor Errors in Work Accomplishment Reporting:

C.4.1.8 Employee Errors in Reporting: The contractor shall correct errors (in AAC MIS) in reporting work accomplishment (Government-provided form or contractor equivalent form) within two (2) working days of identification of those errors by the contractor or notification of errors by AAC.

C.4.1.9 Data Input Errors and Corrections: The contractor shall correct all data errors made by contractor personnel into the AAC MIS. The contractor shall correct all errors made by contractor personnel within two working days after the error is identified by the contractor or the contractor has been notified by AAC of the error.

The contractor shall be assigned a customer identification code to identify work originated by the contractor. The contractor shall be responsible for establishing and maintaining a log for these documents.

C.4.1.10 Contractor Originated Work Requests: The contractor shall initiate SO's and prepare and submit work requests to identify and document maintenance, repair, and new construction requirements discovered during the performance of the contractor's work. These service orders and work requests shall be submitted by the contractor to the Contracting Officer (CO) Office for approval within 5 workdays of discovery. After approval by the CO or company representative, these requests shall be processed by the contractor and AAC in the same manner as SO's and work orders received from all other sources. Contractor originated Priority I SO's shall be submitted directly to the DPW Service Order Desk by the contractor.

C.4.1.11 Service Orders (SO): The contractor shall perform all service order work IAW the time frames for priorities as listed in paragraph below. Occasionally there will be a service order requiring more than one trade such as, electrical, plumbing, etc., all tasks will be performed on one service order. If the contractor cannot perform specific service orders IAW PWS timeframes due to extenuating circumstances, i.e., special supply requirements, etc., the contractor shall notify the CO or company representative and request an exception to listed timeframes for that specific service order. The contractor shall begin work on all service orders within 5 days after materials are received in supply. Service orders for minor new construction are limited to \$2,000 total cost for labor, materials, and equipment per service order. Routine maintenance service orders will not exceed 40 hours of labor. Prior to reaching 40-hour limitation on routine service orders, the contractor shall be responsible for submitting request for conversion from service order to IJO to the CO or company representative for approval. Work that is originally assigned as a service order but exceeds the 40-hour limitation on repair work or the \$2,000 limitation on new work, will be converted to an IJO. The contractor will be responsible for monitoring service order hours and initiating the IJO request. If the contractor fails to monitor the hours on a service order that goes over 40 hours, and the work order is disapproved or will not be funded the same fiscal year, the contractor will be paid for the completed service order only. The contractor will not remove labor hours, equipment, or materials from the service order. The labor and equipment hours will be calculated into the IJO estimate and paid for as an IJO. The contractor will status the service order as complete but will not bill for the service order. These service orders need to be reviewed on an annual basis. A copy of the service order material list will be included with the IJO for supply audit purposes. AAC personnel will verify the service order hours converted by the contractor. Any service order exceeding labor and material limits will be converted to an IJO. The CO or company representative will have approval authority over all service orders which the contractor proposes for conversion to an IJO. If AAC does not intend to fund the IJO within the same fiscal year, the service order should be completed, and the contractor paid for the service order.

Duplicate Service Orders: Occasionally, a request is made by more than one customer representative for the same work at the same location and/or for repair of the same equipment and a service order is written for this work. This constitutes a duplicate service order. The contractor shall report service orders which duplicate the work of currently written service orders, as soon as it is discovered, to the CO or company representative for cancellation of these duplicate service orders. The contractor shall not perform work on and shall not invoice for duplicate service orders.

Service Order Priority Levels: The contractor shall implement and execute all maintenance, repair, and minor construction service order work on the Installation covered by this contract IAW the following priorities. All service orders will be assigned one of the three designated priority levels by AAC. The contractor will not dispute the priority level assigned by AAC.

Priority I - Emergency (Critical) Work: Work which takes priority over all other work orders and requires immediate dispatch, within 30 minutes, including diverting personnel from other jobs to cover the emergency. The work is necessary for the protection of health, safety, and/or to prevent damage to installation property. The contractor shall pursue work on a continuous 24 hours per day basis to include nights, weekends, and holidays until the emergency nature of the work has been alleviated to include restoring utility systems and equipment to a working condition, protecting real property from destruction and damage from the elements, and protecting persons from injury due to conditions resulting from or associated with the emergency. The contractor shall receive Priority I work from the CO or company representative, either verbally, in writing, or by phone.

Work in this category shall generally be performed by the contractor, with paperwork to follow. The contractor shall perform secondary work resulting from or associated with Priority I service orders on a continuous 8 hours per day during normal working hour's basis, until the work is completed. The contractor shall begin such work on the first normal workday after the requirement for such work becomes known to the contractor. Secondary work is classed as work that is not directly related to the emergency, but which may result either from the emergency or the work done to correct the emergency situation. Examples are: Replacing ceiling or floor tiles damaged by the emergency, back filling trenches and landscaping and reseeding of grounds removed during the emergency, etc. Secondary work will not be used as a justification for creating a new service order. The contractor shall complete Priority I service orders, to include secondary work associated with the Priority I service order, within seven (7) working days from the date that the service order was issued to the contractor. The contractor shall notify the CO or company representative whenever circumstances arise that will prevent the contractor from completing Priority I service orders within the seven day time period (i.e., awaiting materials).

Priority II - Urgent: Work which is required to correct a condition which could become an emergency, could seriously affect morale, or has command emphasis. Priority II work is normally generated by a service call from the personnel affected by the failure or by a contractor employee who discovers a failure or pending failure. The contractor shall begin Priority II work within 8 working hours after receipt of a service order except as listed below:

Heating outage during heating season	Within 2 hours or within same day whichever occurs sooner
Lock in/Lock-out due to defective door hardware. (excluding batteries)	Within 3 hours or within same day whichever occurs sooner
Complete water supply outage	Within 2 hours or within same day whichever occurs sooner
Inoperable domestic refrigerator (repair or change out)	Same day response
Inoperable domestic range (repair or change out)	Same day response
Cooling or A/C outage during summer	Within 2 hours or within same day which every occurs sooner
Domestic hot water supply outage	Same day response
Broken or defective windows and doors that compromise security	Same day response

The contractor shall begin work with all necessary personnel and materials and shall pursue work on a continuous 8 working hour per day basis, excluding nights, weekends, and holidays, until the work is completed. The contractor shall complete Priority II service orders within ten (10) working days from the date the service order was issued to the contractor. The contractor shall notify the CO or company representative whenever circumstances arise that will prevent the contractor from completing Priority II service orders within the 10 day time period (i.e., awaiting materials).

Priority III - Routine: Work which does not meet the criteria for Categories I or II but which, if not accomplished, would only continue to be an inconvenience or unsightly condition. The contractor shall begin work on Priority III service orders within 10 calendar days of receipt. The work shall be completed no later than 30 working days after receipt of the Priority III service order. The contractor shall notify the CO or company representative whenever circumstances arise that will prevent the contractor from completing Priority III service orders within the 30 day time period (i.e., awaiting materials).

Service Order Backlog: Contractor shall, regardless of service order priority, schedule and begin work on backlogged service orders that are "not awaiting materials" within 5 working days after all necessary materials are received.

C.4.1.12 Contractor Estimating and Scheduling of Individual Job Orders (IJO's): The contractor shall provide detailed estimates

when requested by AAC. The contractor shall prepare the detailed estimate using contractor furnished estimating system (CFES). The contractor shall furnish AAC with copies of software used and ensure all personnel that prepare estimates are trained in using system(s). AAC will assign IJO's to the contractor and approve contractor prepared IJOs. If the estimating system is not available due to system failure the contractor shall provide estimates by manual means. When this is the case, the following paragraph that states AAC will provide IJOs to the contractor electronically by means of AAC MIS, will mean that AAC will provide the actual IJOs to the contractor; paragraphs that state the contractor shall submit lists of IJOs shall mean the contractor shall submit actual IJOs, including all required documents, to AAC. The contractor shall provide to AAC the source of the information used for estimating. The contractor shall utilize one of the four work classifications for all work accomplished under this contract "J" for utilities, "K" for maintenance, "L" for new work or construction, and "M" for other engineering services.

The contractor shall prepare IJO estimates in accordance with the timeframes specified as follows.

Priority	Timeframe
Priority 40 and above	7 calendar days
Priority 20 – 39	14 calendar days
Priority 19 and below	28 calendar days

If an estimate is returned for re-estimate/revision, the contractor shall revise and return the estimate within the timeframes specified above. The contractor shall analyze the scope of the work requested and determine the specific methods to be used to accomplish the work requested. The contractor shall determine the specific resources needed to accomplish the work as approved to include the number of craftsman man hours needed, by type of craftsman; the material and equipment requirements; and the costs of each resource. The contractor shall make an investigation/inspection of the job site to determine the detailed job requirements and to establish the operational sequences for the shops involved.

The contractor shall prepare a job plan to include drawings as needed of the job to be accomplished, detailed description of what is required, estimate of labor hours and cost, and a bill of materials (BOM) by stock number nomenclature, quantity, cost and number of days to complete work on the IJO after receipt of all materials (IJO completion date). The contractor shall prepare a Detailed Estimate Report for each job. The contractor shall prepare sketches or drawings as needed describing sizes, dimensions, and other pertinent technical characteristics of the job. The contractor shall prepare the BOM for each job phase to show the quantity, unit cost, and total cost of materials, requesting a total price for labor, broken down by phase, and for the identification and pricing of those materials/equipment items required for work completion. The price shall include all contractor labor and overhead charges, the cost of Government furnished material and the cost of any other equipment required to complete the work. The contractor will also provide a timeframe to complete the work after all materials are received. Upon completion of the final estimate, a work request summary report, phase summary report, BOM, phase description, job plan and other required documentation shall be forwarded to ~~The~~ AAC for ~~DPW~~ concurrence or non-concurrence.

The contractor shall change the status of the IJO in the MIS to indicate the detailed estimate is completed and forward all supporting documents (such as: drawings, blueprints, subcontract invoices, etc.) to the CO or company representative for review, final approval, and distribution.

C.4.1.13 Nonrecurring Individual Job Orders (IJO):

Establishment of IJO's: AAC will issue Individual Job Orders (IJO) of specific dollar values, based on the detailed estimates provided by the contractor, to the contractor for accomplishment of nonrecurring individual job orders (IJO's). AAC will assign the IJO's and will issue Notices to Proceed to the contractor for each IJO. AAC will determine those jobs which would be appropriate for this category of work. If AAC concurs with the contractor's estimate and decides to proceed with the IJO, the CO or company representative will issue a Notice to Proceed to the contractor for accomplishment.

For tasking's that may be subcontracted, the contractor shall be required to furnish a minimum of three quotes to support the non-recurring IJO estimate. The subcontractor quotes must provide sufficient detail which will enable

AAC to determine price reasonableness. If three quotes cannot be obtained, the contractor shall request from the CO or company representative (if delegated by the CO) written approval for the use of two quotes or sole source and an explanation of why less than three quotes are required.

Government Non-concurrence with Estimate: In any instance where AAC non-concurs with the contractor's estimate, it will normally be returned to the contractor with detailed reasons for the non-concurrence. AAC reserves the right not to return an estimate. In this case, the contractor will be notified that the IJO has been withdrawn from the purview of the contractor. For any estimate AAC non-concurs with, the contractor may be given the opportunity to re-estimate the job. If, after reviewing AAC's comments, the contractor cannot modify its original estimate, the contractor shall return the documentation to AAC without further action. However, if after reviewing AAC's comments, the contractor determines that a re-estimate/revision is appropriate, a new estimate shall be developed for consideration within the guidelines as noted above. In either case, discussions between AAC and the contractor may clarify any points in question.

C.4.1.14 Change Orders to Work Orders:

Unforeseen Site Conditions: When unforeseen conditions occur, which will affect the cost of the IJO, the contractor shall estimate the amount of additional work and/or materials/equipment required. This will be done after inviting a designated Government representative to the work site for consultation and verification of the unforeseen circumstance. The contractor shall initiate and forward a revised estimate and BOM to include additional work and supplies to AAC for approval/disapproval within 2 days of discovery. Under these conditions negotiations may occur. Unforeseen conditions are those conditions which could not have been predicted because they could not be known to the contractor's estimators, and/or which are outside the job plan and estimate. These conditions will usually exist inside a wall or ceiling, or underground. If AAC determines that the IJO should be terminated, it may do so and reimburse the contractor for the work already accomplished. The phase(s) in progress shall be completed if possible.

AAC Work Stoppage with Intent to Restart Work: Once work on an IJO begins, the work shall not be stopped, under normal conditions, and shall progress in a timely manner until completion. If for some reason AAC stops the contractor's work and intends to restart the work at a later date and this temporary stoppage increases the contractor's cost, a revised estimate should be submitted to AAC to include additional costs to the CO or other designated representative for approval/disapproval. The contractor may invoice AAC for the percentage of the IJO completed at the end of the billing period.

AAC Work Stoppage with No Intent To Restart Work: If AAC decides to stop work on an IJO with no intention of restarting the work, the contractor shall submit a revised estimate that includes any costs a stoppage will cause to the CO or other designated representative for approval/disapproval. AAC will be responsible for notifying the contractor of any aesthetic considerations required in securing the job site. If the work is not to be restarted, the contractor shall invoice AAC for the completed percentage of the IJO.

AAC Directed Emergency IJO's: For directed IJO's done under emergency conditions, e.g., without the normal estimating/approval process, to include Storm damage, fire, flood, etc., the contractor shall submit a statement of actual work accomplished, charging-AAC for man hours used at the loaded labor rate and for contractor furnished materials and equipment. The request for emergency work will be made verbally to the contractor by the CO, or designated representative.

C.4.1.15 IJO Materials and Scheduling: The contractor shall create and forward one copy of the BOM for each approved IJO to the CO within 2 days of receipt of the NTP. The contractor shall obtain and store all materials required to complete an IJO, as stated in the BOM. Unless directed by the Contracting Officer or designated representative, the contractor shall not start work on an IJO until all materials are available. The contractor shall maintain an Awaiting Materials Report to enable him to determine status of material requirements. The contractor shall maintain an Awaiting Schedule Report which identifies all IJO's with all required materials on hand. The contractor will provide a copy of these reports to the CO-weekly, by close of business Wednesdays.

The contractor shall schedule work on IJO's to coincide with the priorities of the IJO's. The contractor shall contact the Point of Contact (POC) provided on the IJO to coordinate access to the areas where work will be required at least five working days prior to the projected work start date.

The contractor shall schedule work on IJO's to commence within 15 calendar days after all AAC furnished materials for the IJO have been received unless AAC has directed a change to the schedule. Contractor may begin work prior to receipt of the full BOM, if materials are readily available from local sources and/or are not scheduled to be delivered until required for use on the IJO. The contractor shall schedule work to be completed within the timeframe established with the estimate.

Acceptance of IJO's: When all work on an IJO has been completed, the contractor shall submit an acceptance document to the CO, or company representative within fourteen (14) calendar days for inspection by contractor and AAC's and acceptance of the work. If the work inspected is found to be unsatisfactory or incomplete, the acceptance document will be returned to the contractor with an unsatisfactory inspection report. Once the contractor has satisfactorily completed the work, the acceptance document will be resubmitted for approval. The contractor may request partial acceptance, by phase, when the IJO completion time will be one (1) month and greater.

C.4.1.16 Other Factors:

As built drawings, as available, will be provided by CO or company representative upon contractor request to mitigate the impact of hidden or unforeseen conditions.

AAC will require the requestor to provide an accurate and complete non-technical scope of the work to be accomplished. The contractor shall analyze the scope of work requested to determine the specific methods, labor requirements, materials, and equipment to be used in accomplishing the work. However, after Government approval to proceed is given, the previously provided scope of work may no longer be valid because of the requester's changing needs or desires. In these cases, AAC may decide to re-estimate based on the changes and issue a revised NTP or may cancel the original NTP and the contractor shall invoice-AAC for the completed percentage of the Fixed Price for the IJO.

Estimates shall include, if necessary, line drawings of the work to be done.

Once a work request is assigned a priority number, that priority will be maintained, when possible, until work is completed, to allow the contractor to properly schedule and control the work effort. However, AAC reserves the right to change priorities of work whenever necessary to meet AAC's requirements.

C.4.1.17 Nonrecurring IJO Reports: The Contractor shall provide a Weekly Schedule Report to AAC by close of business Thursday each week. The report will indicate the IJO's scheduled for the following week, and tentatively scheduled for the following two weeks and percent completion of all in-progress IJO's. The contractor shall furnish the Weekly Schedule to the CO or company representative. The contractor shall accomplish all work as scheduled. When the contractor determines it is necessary to revise the schedule, changes shall be submitted to the CO or company representative within one (1) working day. Changes shall be submitted in a letter type format developed by the contractor and approved by the CO or designated representative.

Changes to the schedule requiring an IJO to be delayed more than one (1) week shall require the approval of the Contracting Officer or designated representative.

Recurring Maintenance Orders: The contractor shall partner with AAC to develop and maintain Recurring Maintenance orders as necessary within the constraints of AAC MIS. The contractor's role includes verification of data contained in this PWS (including TE), Government historical data, and the contractor's observations. The contractor shall inform the CO or designated representative of any discrepancies within ten (10) calendar days of finding.

Scheduling: The contractor shall prepare a quarterly schedule depicting the work to be accomplished on recurring maintenance orders. The contractor shall submit the schedule to the Contracting Officer or designated representative for review and approval not later than 10 working days prior to contract full performance

date and thereafter not later than 10 working days prior to the start of each quarter, showing the man hours to be allocated to recurring maintenance orders weekly. The schedule shall include order number, shop, and craft skill level.

C.4.1.18 Recurring Maintenance Report: The contractor shall submit a summary letter, with days, hours and employee number for hours worked for each recurring maintenance IJO by shop attached to the Contracting Officer or designated representative not later than 1 week after the end of each quarter or the completion of each job, whichever is earlier. Information shall be provided by the contractor by IJO number to reflect man hours, tasks accomplished, equipment hours of Government equipment, and other related data. The contractor shall prepare and submit, a list of facilities receiving recurring maintenance each month.

The contractor shall provide a recurring maintenance progress report to the Contracting Officer or designated representative not later than 5 working days after work completion. This report shall include the following: type of equipment worked on, procedures used, type of frequency, building number, status of equipment, craftsman identification, and date.

C.4.1.19 Preventive Maintenance Orders (PM): The contractor shall partner with AAC to develop and maintain Preventive Maintenance orders as necessary within the constraints of AAC MIS. The contractor's role includes verification of data contained in this PWS (including TE), Government historical data and the contractor's observations. The contractor shall inform the CO or designated representative of any discrepancies within ten (10) calendar days of finding. The contractor shall prepare and submit to the Contracting Officer or designated representative for approval, not later than 10 working days prior to contract full performance date and thereafter not later than 10 working days prior to the start of each 90-day period, detailed PM schedules for the next period, consisting of a list of the facilities to receive PM services during the period and the date the facility last received PM services. Upon receipt of approval, the contractor shall schedule and accomplish the scheduled PM. The contractor shall prepare and submit, a list of facilities receiving preventive maintenance within 5 working days after the end of each month.

Material: The contractor shall utilize AAC MIS PM material accounts to record the cost of material utilized in support of PM.

C.4.1.20 Plant Operation Orders: The contractor shall partner with AAC to develop and maintain Plant Operation Orders as necessary within the constraints of AAC MIS. The contractor's role includes verification of data contained in this PWS (including TE), Government historical data and contractor's observations. The contractor shall inform the CO or designated representative of any discrepancies within ten (10) calendar days of finding. The contractor shall schedule and accomplish work as indicated on an approved order.

C.4.1.21 Excess Material: The contractor shall within 15 days of completion of each service order or IJO, the contractor's craftsman will turn-in all excess material to the supply function. Excess materials will not be maintained in the contractor's shop area.

~~C.4.1.22~~ Overtime: The contractor shall inform the Contracting Officer's Representative, in writing, when overtime hours reach 75% of the estimated overtime hours listed in C.5.20.10. With exception to priority I service orders and/or emergency type conditions, all overtime hours in excess of the estimated work load data will require authorization from the Contracting Officer or designated representative prior to the work being performed.

C.5.2. ROADS:

C.5.2.1 Scope: The contractor shall perform the following services as specified throughout this section. This work shall be performed when requested by a valid work document (service order, work order) or on recurring maintenance. New work shall be captured on a valid work document. The contractor shall maintain all aspects of an active AAC Property, relating to paved and unpaved runways, roadways, multiuse paths, and walkways anywhere on the installation. The contractor shall utilize industry standard traffic control devices and services. Disruption of traffic flow and detours shall be coordinated with AAC. Road closures shall be coordinated by AAC and will require advanced notification. All earthwork shall require a digging clearance, unless otherwise directed by AAC.

C.5.2.2. Asphalt Repair: The contractor shall perform maintenance, repair, replacement, and new construction of

flexible asphalt pavements of roads, parking lots, compounds, motor parks, multi-use paths, etc. Maintenance, replacement, and repair, normally performed as recurring maintenance as directed by AAC, shall consist of road shoulder maintenance, pothole patching with cold mix asphalt, replacement of failed sections with hot mix asphalt, replacement of guardrails, replacement of bumper blocks, saw cutting, crack sealing and sealing of parking lots. This work includes the replacement, repair and proper compaction of the base and subbase materials. All work shall be performed to industry standards.

C.5.2.3. Concrete Repair: The contractor shall perform maintenance, repair, replacement, and new construction of ridged concrete pavements to include sidewalks, slabs, curb and gutter, stairs, steps, headwalls, ramps, pads, walls, footers, utilities, grout, etc. Maintenance, replacement, and repair, normally performed as recurring maintenance as directed by AAC, shall consist of joint and crack repair, spall repair, replacement in kind of various structures and full depth slab repair. This work includes setting forms and backfilling structures with topsoil. All work shall be performed to industry standards.

C.5.2.4. Sweeping Post: The contractor shall conduct sweeping operations of the roads and parking lots on the installation. The type of debris is generally generated by storm damage, erosion, spills, chronic hazardous areas, and environmental factors. Other areas of the installation shall be swept as requested by AAC. This work will normally be performed as recurring maintenance. The contractor shall also provide magnetic pick up of nails, screws, etc. The contractor can also be expected to sweep areas for special events as directed by AAC.

C.5.2.5. Unimproved Roads, Parking Lots: The contractor shall blade, water, and roll unimproved or unpaved roads, fire breaks, and parking lots normally on recurring maintenance as requested by AAC. The contractor shall shape surfaces to promote drainage and eliminate ponding by using storm water leadoff ditches, interceptor ditches and other drainage systems. Surfaces shall be smooth, free of ruts wash boarding and irregularities. The contractor shall utilize a water truck or tanker for dust control and to aid in compaction. The contractor shall roll surfaces for compaction and stability. All work performed shall be performed to industry standards.

~~C.5.2.6.~~ Ditch, Storm Drain and Detention Basin Maintenance: The contractor shall maintain, replace, repair, clean and clear drainage systems such as swales, gutters, ditches, culverts, storm drains, detention basins, etc. by removing debris such as leaves, dirt, mud, silt, etc. to ensure proper management of storm water. This work shall normally be performed on recurring maintenance. Detention basins shall be cleaned and prepped for launches prior to missions.

C.5.2.7. Rock, Block and Brick Masonry: The contractor shall maintain, repair, replace various rock, block, and brick masonry structures to include rock walls, planters, block walls, etc. All work shall be performed to industry standards.

C.5.2.8. Fencing and Gates: The contractor shall repair, install, maintain, remove, replace, etc. various types of fencing to include numerous strand barbed wire, wooden, and chained link fencing. The contractor shall repair, install, maintain, remove, and replace, etc. all types of gates to include motorized and non-motorized gates. All work shall be performed to industry standards.

C.5.2.9. Hauling: The contractor shall be expected to load and haul construction materials, spoils, heavy engineering equipment, barricades, supplies, water, military equipment/vehicles/aircraft, shipping containers, sheds, etc. to and from various locations located throughout the installation utilizing dump trucks, stake bed trucks, tractors with lowboy and flatbed trailers.

C.5.2.10. Loading and Unloading: The contractor shall be expected to load and unload material and equipment utilizing a crane and forklifts. The contractor shall be able to respond to crane support in accordance with Service Order priority. The contractor shall be expected to load and unload various items as sheds, shipping containers, concrete barricades (K-rails/Jersey barriers), military equipment/vehicles/aircraft, etc.

C.5.2.11. Earthwork: The contractor shall excavate for utility line installation and maintenance. The contractor shall clear, and grub areas as directed by AAC.

C.5.2.12. Bucket Truck Support: The contractor shall be expected to provide bucket truck support to service and install cameras, clean, and maintain rain gutter on buildings, inspection of facilities, aerial photography, tree trimming and removal, etc.

C.5.2.13. Dust Abatement: The contractor shall be responsible for dust abatement during all facets of project activities. The contractor shall maintain dust logs detailing the amount of water used, the activity and location for each piece of equipment using water for dust abatement. The amount of water used for dust abatement and the location shall be reported to the COR monthly.

C.5.2.14. Snow and Ice Removal: The contractor shall ensure there is sufficient sand for use at the Maintenance Facility during the period when snow and ice can be expected, normally September through March. The sand is used in the truck mounted sand spreaders for use on primary and secondary roadways according to the snow and ice plan or as directed by AAC. Graders shall be used to plow snow on primary and secondary roadways according to the snow and ice plan or as directed by AAC. The contractor shall shovel snow from steps and spread sand on steps and walkways according to the snow and ice plan or as directed by AAC. The contractor is required to have a snow and ice plan. Salt shall not be used on any launch pad or concrete surface.

C.5.2.15. Wildfire and Prescribed Burn Support: The contractor shall provide heavy equipment as requested on a valid work document during wildfires (dozers, graders, loaders, dump trucks, etc.) and water hauling support upon receipt of a valid work document. For prescribed burns, the contractor shall blade existing roads and fire breaks on recurring maintenance as directed by AAC.

C.5.2.16. Culverts: The contractor shall emplace various types of culverts with and without concrete headwalls and riprap material as directed by AAC.

C.5.2.17. Flagpoles: The contractor shall repair, maintain, replace, install, and remove flagpoles including ropes and all associated hardware.

C.5.2.18. Generators: The contractor shall perform maintenance, repairs and testing on electrical power generators to include proprietary systems listed in TE 5.15.4. on a weekly basis, ensuring that all generators are always functioning properly. The contractor shall coordinate all generator testing with the using agency. The contractor shall provide a generator status report to the COR monthly. At a minimum, the report shall list the type of generator, fuel and oil levels, hour meter readings at start and end of operation, dates, notes, its associated identifying numbers, its location, its status (operational/nonoperational) and if nonoperational, the date it became nonoperational, the reason why and remarks as to how and when it will become operational and the name of the generator operator. AAC shall provide all fuels for each generator. The contractor shall provide all repair parts and services. All work shall be performed to industry standards and manufacturers requirements. All emergency generators are critical for the facilities they support. Downtime shall be kept to the absolute minimum. All repairs shall be considered an emergency. If the installation experiences a power outage for an extended period, the contractor shall monitor the operations of all generators, coordinating for refueling and performing manufacturer recommended services as required. Generator operation and maintenance shall be performed as recurring maintenance.

C.5.2.19. Maintenance: The contractor shall have mechanics to service and repair the emergency generators listed in TE 5.15.4. and the GOCO vehicles and equipment. This work shall be performed as recurring maintenance. Generator maintenance is covered in C.5.2.22. The contractor is responsible for all fuels, POL, fluids, repair parts and repairs for all the GOCO vehicles and equipment. All work shall be performed to industry standards and manufacturers requirements. GOCO vehicles and equipment are expected to be always functioning properly. Downtime shall be kept to a minimum.

C.5.3. GROUND

C.5.3.2. Pruning and Trimming: The contractor shall prune and trim suckers, dead growth and branches that pose a safety hazard from shrubs, bushes, hedges, and trees as directed by-AAC. The contractor can expect to remove very large trees (historic cottonwoods, etc.) which may require utilization of heavy engineering equipment (cranes, bucket trucks, loaders, dump trucks, etc.) and extra-large chainsaws. Maintenance and or removal of large trees may require the use of pole saws, bucket trucks and boom lifts. Equipment not on hand shall be obtained for the job at the contractor's expense. All work shall be performed to industry standards. Damage to trees and plantings from pruning and trimming activities shall be kept to an absolute minimum.

C.5.3.3. Stump Removal: The contractor shall perform stump removals by digging them out or by using a stump grinder. Grinding of stumps shall be six inches below grade. After removal or grinding, the contractor shall backfill the area to grade with topsoil or appropriate landscaping material.

C.5.3.4. Raking: The contractor shall remove windblown leaves from buildings and other structures upon receipt of a valid work document.

C.5.3.5. Debris Removal: The contractor shall remove blown down trees and branches from storm events shall be removed upon receipt of a valid work document.

C.5.3.6. Planting: The contractor shall plant trees, shrubs, native plants, and ground cover as requested and purchased by-AAC. All work shall be performed to industry standards.

C.5.3.7. Mowing: The contractor shall trim, and mow selected areas upon receipt of a valid work document.

C.5.4. ENVIRONMENTAL

C.5.4.1. Scope: The contractor shall establish, manage, and operate an environmental functional area under the contract. The contractor shall be responsible for all contractor actions relating to environmental matters and shall comply with all subsections of C.5.4.

C.5.4.2. General:

C.5.4.2.1. Regulations/Laws: The contractor shall comply with all Federal, State, and local environmental protection laws, regulations, and standards, and with technical specifications herein; this includes requirements for clean air, clean water, toxic substances control, pollution control, resource conservation and recovery, and other environmental protection matters. The contractor shall coordinate all environmental protection matters with the CO or company representative. The contractor shall accomplish all control activities in a manner assuring maximum protection of endangered species and environmental quality.

C.5.4.3.1. The contractor shall be responsible for adherence to all Federal, State, and local environmental laws and regulations applicable in the State of Alaska at the start of the contract whether stated or not stated. In ratifying the contract, the contractor agrees to negotiate in good faith with the CO or company representative, the insertion of subsequent laws and regulations into the contract.

C.5.4.2.3 The contractor shall provide all records and supporting documents required by Federal, State and local environmental protection laws, regulations and standards to the CO or company representative.

C.5.4.3. Asbestos Control Compliance Requirements: The contractor shall comply with all Federal, State, and local laws, regulations, executive orders, and standards relating to asbestos and asbestos containing materials when encountered in repair (SO), preventive maintenance (PM), recurring maintenance (RM), and new non-recurring (IJO) type work.

C.5.4.3.1. The contractor shall, on encountering asbestos and asbestos containing materials at a work site, stop further work at that work site and report the incident to the CO or company representative immediately. Asbestos and asbestos containing material incidents shall be handled on a case-by-case basis. All

environmental protection matters relating to asbestos and asbestos containing materials shall be coordinated with the CO or company representative.

C.5.4.3.2. AAC shall furnish all containers, and other related materials utilized in asbestos control. The contractor shall furnish necessary PPE.

C.5.4.3.3. Actions shall be followed by the contractor for the removal of small quantities of asbestos and asbestos containing materials encountered on a job site. These actions shall include packaging of the material, ensuring the contractor employees working at or visiting the site wear protective clothing and equipment and observe safety precautions for the containment of the asbestos and asbestos containing materials, providing required protection to building occupants and ensuring that building occupants are aware of the hazards involved, and the disposal IAW Federal, State, and local laws, regulations, executive orders, and standards of the removed asbestos and asbestos containing materials. Examples of situations requiring removal of asbestos and asbestos containing materials include, but are not limited to: insulation on pipes, boilers, steam lines and pumps; sprayed and formed wall and ceiling insulation, fireproofing, and soundproofing which has been either disturbed and/or broken; pressed board used for insulation, fireproofing, and soundproofing which has been either disturbed and/or broken; floor and acoustical tile; water, sewage collection, and storm water collection and drainage lines; and contaminated soil and ambient materials. The contractor shall maintain required records including all supporting documents required by 40 CFR 61.

C.5.4.3.4. Training: The contractor shall provide employees who are trained and certified IAW 40 CFR 265 for hazardous waste handling. The contractor shall maintain individual training records for contractor employees who handle, collect, store, and/or dispose of hazardous waste substances. The contractor shall re-certify contractor employees, who handle hazardous waste, annually.

C.5.4.3.5. Hazardous Waste Management Plan:

C.5.4.3.5.1 Recurring Maintenance: RM Regulated Waste Stream Management (contractor generated) Contractor shall manage wastes generated from contractor and customer operations in appropriate waste accumulation points: hazardous waste in satellite accumulation points (SAP); universal waste accumulation points (UWAP); petroleum, oils, and lubricants accumulation points (POL), and industrial waste accumulation points (IAP). Accumulation points shall be established and managed in accordance with the current installation hazardous waste management plan, Resource Conservation and Recovery Act,

C.5.4.3.5.1.1 Contractor shall coordinate turn in of contractor and customer generated waste in accordance with current hazardous waste management plan. Contractor shall transport generated waste to the installations 90-day accumulation points at scheduled appointment.

C.5.4.3.5.2 RM Regulated Waste Sample & Analyze (installation generated waste) The contractor shall coordinate collection of waste samples and selection of analytical parameters with AAC. The contractor shall follow the current installation waste analysis plan for sampling and analytical parameter requirements.

C.5.4.3.5.2.1 This WBS element supports the routine collection of samples from regulated waste to verify waste characterization of the installation's waste streams. This WBS element can also be used for found ~~on-post~~ waste that must be characterized to determine proper waste management. NOTE: Sampling of all wastes shall be coordinated through Designated POCs.

C.5.4.3.5.3 Installation Regulated Waste Transport The contractor shall transport regulated wastes generated from installation operations. Regulated wastes include but are not limited to hazardous waste; universal waste; petroleum, oils, and lubricants (POL), and industrial (non-RCRA) waste, Toxic Substances Control Act (TSCA) waste batteries and aerosol cans. The contractor shall only transport waste with the associated turn in documentation prepared IAW the most current-guidance.

C.5.4.3.5.3.1 The contractor shall coordinate with the 90-day hazardous waste accumulation point to establish waste transportation schedules and identify waste streams/accumulation point locations as applicable. There will be monthly battery pickups, all other waste streams will be transported from accumulation points/locations to 90

days on an as needed/call in basis.

C.5.4.3.5.3.2 Provided WBS elements only covers transportation of installation regulated wastes, battery pickup, POL program waste streams, and aerosol can recycle program. Mismanaged hazardous materials will be processed through service orders and funded by the organization generating the waste. Any exceptions shall be coordinated prior to waste/materials being transported to the 90-day WAP. Containers for managing most waste streams should be obtained from the WAP. Container and supplies should be charged to a separate operation work order.

C.5.4.3.5.4 PSCA Regulated Waste Processing Contractor shall process waste transported from installation operations the day the waste is delivered to the 90-day WAP or NLT the next business day following the waste delivery yard. Processing shall include, but not be limited to, preparation of materials/waste for off-site transportation, preparation of batteries for off-site transportation to recycling facilities or if battery is damaged, for disposal off-site; separation of aerosol cans and evacuation of aerosol cans using the automated aerosol can crusher; movement of process generated waste into appropriate storage locations.

C.5.4.3.6. Hazardous Waste Work Authorization Documentation: The contractor shall perform all hazardous waste handling work required under the contract by approved Work Orders, e.g., Service Orders (SO) and Individual Job Orders (IJO) IAW the specifications listed subparagraphs hereunder.

C.5.4.3.7. Logbooks and Records: The contractor shall develop and maintain logbooks and files of incidents relating to regulated hazardous material and waste handling. The logbook shall contain as a minimum the following information: Work Document Number and Date work commenced/Date work completed.

Contractor employees handling hazardous waste substances a copy of the completed Work Document The approximate amount and the disposition of the hazardous waste substance.

The contractor shall have all logbooks and files be made available to the CO, and other Government, Federal, State, and local Government employees as designated by the CO or company representative, upon request; shall be retained until completion or termination of the contract; and shall be turned over to AAC and become the property of AAC at contract completion or termination.

C.5.4.4.7 Hazardous Chemical Inventory: The contractor shall perform every 180 days a Hazardous Chemical Inventory. This inventory shall list all hazardous chemicals used and stored per building/shop. The inventory shall list: Building number, name of chemical, national stock number if applicable, quantity of chemical on hand, the date the inventory was performed and who performed the inventory. Safety Data Sheets shall accompany each hazardous chemical that is listed at each building/shop. The contractor shall submit copies of this inventory to the CO or company representative-or other government official upon request.

C.5.4.4. Refrigerants: The contractor shall comply with all Federal, State, and local laws, regulations, executive orders, and standards pertaining to handling and use of Refrigerants.

C.5.4.4.1. The contractor shall have appropriate recycling and recovery equipment to recycle all refrigerants that are removed from systems utilizing those refrigerants. This equipment will include proper Department of Transportation (DOT) storage containers for the recycled gases. Gauge manifold sets and hoses shall be equipped with shut-off valves to limit refrigerants from being released into the atmosphere. The contractor shall provide a list within thirty (30) days after contract full performance date, to the CO or company representative of all recycling equipment currently on hand, or on order. The contractor is advised that it is illegal to release refrigerants into the atmosphere. The release of refrigerants into the atmosphere can result in a fine and imprisonment.

C.5.4.4.2. Training: The contractor shall provide appropriate training to employees who service refrigeration equipment in accordance with the requirements of the Clean Air Act (CAA) of 1990 and 40CFR Part 82. Training records shall reflect that the employees have been trained to handle refrigerants in accordance with the applicable regulations.

C.5.4.4.3. Refrigerant Containing Products Inventory: The contractor shall ~~provide~~ an inventory of "all" Halon & refrigerants used by the contractor to CO or company representative within 30 calendar days after contract full

performance date and shall thereafter provide an inventory of Halon & refrigerant containing products to CO or company representative not later than close of business 15 December each year covering the period from 1 December of the preceding year through 30 November of the reporting year. The inventory shall include: the quantity, by weight, of products purchased during the reporting year, the product name, and the national stock number of the product, if applicable; the quantity, by weight, of products recovered from use, e. g., from "all" refrigeration and air conditioning systems and from Halon fire systems, which were not reusable and which were disposed of during the reporting year, the product name, and the national stock number of the product, if applicable. The contractor shall include in this category, separately, products that have been recovered and are in the process of being disposed of.

C.5.4.4.3.1 The contractor shall have partially filled containers be weighed and the weight of the container subtracted from the total weight of the container and the product to determine the product weight.

C.5.4.4.4. For equipment normally containing 50 pounds or more of refrigerant per circuit, the contractor shall repair all leaks resulting in the loss of 10% or more of the equipment circuit's full charge as determined by an annualized leak rate calculation based on the rate of loss since the last refrigerant charge. Leaks from equipment normally containing 50 pounds or more of refrigerant must be reported to the CO or company representative within 72 hours of discovery. Within 30 days of leak discovery, the contractor shall perform and fully document leak inspection (determine location of refrigerant leaks using EPA-approved methods), leak repair, initial verification test and follow-up verification test performed by a certified technician in accordance with 40 CFR Part 82 on the Accidental and Unintentional Venting Report Form for Refrigerant Containing Equipment. If a leak cannot be repaired within 30 days, the contractor shall notify the QAE as soon as this determination is made. The contractor shall perform and fully document leak inspections for all appliances that exceed the applicable leak rate in accordance with the requirements and schedule established in 40 CFR Part 82.157. Documentation of leak inspections must include at least the following information: The date of inspection, the method(s) used to conduct the leak inspection, a list of the location of each leak that was identified, and a certification that all visible and accessible parts of the appliance were inspected. The contractor shall provide information related to chronically leaking appliances, purged refrigerant and seasonal variance, for appliances containing 50 pounds or more of refrigerant, as applicable.

Mothballing of appliances, retrofitting and retirement plans must comply with and be fully documented in accordance with the requirements set forth in 40 CFR Part 82. The contractor shall determine the full charge of an appliance, as necessary to comply with 40 CFR Part 82. The contractor shall maintain a record of at least the following information each time an appliance with a full charge of 50 pounds or more is maintained, serviced, repaired, or disposed of, when applicable: The identity and location of the appliance; the date of the maintenance, service, repair or disposal performed; the parts of the appliance being maintained, serviced, repaired or disposed; the type of maintenance, service, repair, or disposal performed for each part; the name of the person performing the maintenance, service, repair, or disposal; and the amount and type of refrigerant added to or disposed from the appliance.

C.5.4.4.5. The contractor shall maintain records documenting the evacuation of refrigerant from all equipment turned in (or otherwise disposed of) and properly label the evacuated equipment in accordance with applicable regulations. Documentation must include at least the following information: The company name, location of the appliance, date of recovery, and type of refrigerant recovered for each appliance; the total quantity of refrigerant, by type, recovered from all disposed appliances in each calendar month; and the quantity of refrigerant, by type, transferred for reclamation and/or destruction, the person to whom it was transferred, and the date of transfer.

C.5.4.4.6. Oil/Water Separators: The contractor shall maintain all oil/water separators on the installation in accordance with manufacturer's operation and maintenance manuals and in accordance with Federal, State, and local environmental regulations. The maintenance of this equipment shall also include the removal and proper disposal of oil, sludge and grit collected from the separators.

C.5.4.8. Site Characterization: The contractor shall, upon receipt of a valid work document, perform site characterizations to determine the extent and level of contamination at sites described in the work document. The contractor shall perform all site characterizations in accordance with Federal, State, and local requirements for performing site characterizations.

C.5.4.9. Compliance Requirements:

C.5.4.9.1. Generator Engine Compliance Requirements: The contractor shall operate and maintain boilers and heaters in accordance with manufacturer instructions or prepare an operation and maintenance plan with adequate information to properly operate and maintain equipment in good working order. A copy of the manufacturer instructions or operation and maintenance plan must be maintained on-site.

C.5.4.9.2. Boiler and Heater Compliance Requirements (Fossil Fuel Fired Equipment): The contractor shall operate and maintain boilers and heaters in accordance with manufacturer instructions or prepare an operation and maintenance plan with adequate information to properly operate and maintain equipment in good working order. A copy of the manufacturer instructions or operation and maintenance plan must be maintained on-site.

C.5.4.9.4. Volatile Organic Compound Compliance Requirements: The contractor shall process, store, use and transport materials including solvents and other volatile compounds, paints, acids, or alkalis in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air to contribute to air pollution. Where means are available to effectively reduce the contribution to air pollution from evaporation, leakage or discharge, the contractor's use of such control methods, devices, or equipment shall be mandatory.

C.5.4.9.5. Fugitive Dust Compliance Requirements: The contractor shall employ reasonable precautions to prevent excessive amounts of particulate matter (dust) from becoming airborne during construction, repair operations, demolition activities, clearing operations, leveling operations, material handling, earth moving or excavating activities, vehicular activity, sweeper truck operations. The contractor shall remove earth or other materials from paved roadways which has been transported by trucking or earth moving equipment, erosion by water or by other means.

C.5.4.9.6. Mobile Source Requirements: The contractor shall have off-road machinery, to include trucks, graders, scrapers, rollers, sweeper trucks, and other construction or heavy machinery must be maintained in good working order so as not to emit excessive exhaust emissions. When starting cold equipment, exhaust emissions are exempt from this requirement for the first ten minutes. The contractor shall maintain records of all emissions related maintenance activities performed on mobile sources per manufacturer specifications.

C.5.6.3.1.1. Weed Control: The contractor shall provide weed control on ground areas. The contractor shall maintain areas such as roads and road shoulders, parking lots, launch pads, helipads and electrical switching stations free of weeds and objectionable plant growth.

C.5.6.3.1.2. The contractor shall maintain road shoulders, street curbs and sidewalks free of weeds and objectionable plant growth. The contractor shall maintain road shoulders out to 12 feet from the edge of the pavement on both sides of roads.

C.5.6.3.1.3. The contractor shall maintain high voltage switching stations free of weeds and plant growth upon receipt of a valid work document.

C.5.6.3.1.4. The contractor shall maintain water wells and fire hydrants free of weeds and plant growth. The contractor shall maintain a two-foot path around the perimeter of fire hydrants free of weeds and plant growth.

C.5.6.3.1.5. Propane Tanks: The contractor shall maintain propane tank areas free of weeds and plant growth upon receipt of a valid work document. The contractor shall maintain a 10-foot path around the perimeter of propane tanks free of weeds and plant growth.

C.5.6.4. Response Time:

~~C.5.6.4.1.~~ Regular Work Hours: The contractor shall respond to service requests received AAC.

C.5.6.4.2. Other Than Regular Work Hours: The contractor shall respond to emergency service requests within two hours. The contractor shall provide pest management services that cannot be scheduled during regular business hours. The contractor shall coordinate with the CO or company representative for other than regular work hours for pest management applications.

C.5.6.5. Safety and Control:

C.5.6.5.1. The contractor shall ensure preparation and protection of areas and facilities to be serviced prior to any pesticide application. The contractor shall provide occupants of facilities which store or prepare foods, suitable plastic, or other covering necessary to prepare those areas. The contractor shall ensure that particular care be taken that food, water, or other substance subject to ingestion by human or pet life is not contaminated by pesticides applied by contractor. If utensils, work surfaces, or machines used to prepare or disperse food is contaminated inadvertently, the contractor shall immediately make all necessary arrangements for cleaning or disposal of the items, as applicable. No space treatment shall be made in occupied spaces until all occupants have vacated the premises. The contractor shall warn occupants of the necessity for cleaning food contact surfaces after any pesticide application. The contractor shall report to the CO or company representative immediately of any pesticide spills.

C.5.6.5.2. Pesticide Disposal: The contractor shall when handling and disposing of pesticides, the contractor shall adhere to the following: AR 200-1, Environmental Protection and Enhancement

C.5.6.5.3. Application: The contractor shall not apply pesticides outside during heavy rain, or while runoff is occurring which will contaminate other areas, or within 50 feet of any well which provides potable water. Pesticides will be used in accordance with the product label concerning applications methods. Herbicides shall not be applied when wind speed favors drift beyond the area intended for treatment. Care shall be taken to provide that toxicants do not contaminate any ditch, culvert, drainage system or standing body of water by runoff or surface flow. All pesticides and their dispensers shall be secured in a locked storage facility, locked vehicle compartment or under the immediate and direct control of the contractor always while on the installation.

C.5.6.6. Reports:

C.5.6.6.1. Daily: The contractor shall utilize Government provided electronic forms to document any pesticide application within any facility. The contractor shall keep on file completed copies of these Forms, to include a list of locations of pesticide applications, for the term of the contract and shall furnish the completed forms to AAC upon completion or termination of the contract. Copies of these forms shall be made available to AAC upon request.

C.5.6.6.2. Monthly: The contractor shall prepare and submit electronic form, Monthly Pest Management Summary Report, to the CO or company representative no later than close of business, first workday of each month. The contractor shall have the following information on electronic forms; pest species controlled, type of treatment, building, facilities and terrain type, number of units, square footage, acreage, pesticide common names, formulation, amount applied, concentration, PAI, and hours of labor and survey expended. The contractor shall maintain a current Pesticide Inventory Report of pesticides to include self-help issued products. The contractor shall have the following information on the Pesticide Inventory Report: name and manufacturer, EPA #, unit and quantity. The contractor shall submit the inventory report to the CO-or company representative monthly.

C.5.6.6.3. Applicable Documents: The contractor and all personnel provided by the contractor shall adhere to all applicable Public Laws and Government Publications contained in C.5.6. or C.6.

C.5.7. CARPENTRY

C.5.7.1. Scope: The contractor shall perform all functions of woodworking to include repair, replacement,

installation, layout, and removal of carpentry items such as framing, finish work, ceramic tile, floor and wall coverings, ceilings, roofing, cabinets, and hardware on buildings, structures, and facilities. The contractor shall match existing and surrounding materials on buildings, structures and facilities when repairing, replacing, and removing carpentry items. The contractor shall ensure that woodworking requirements are performed by contractor personnel as detailed in C.1.3.3. The contractor shall perform preventive maintenance (PM) requirements in numerous trade categories outlined in C.5.7.17.

C.5.7.2. Wood Framing: The contractor shall layout, install, replace, repair and remove interior and exterior walls, floors, platform towers, bridges, steps and handrails, ceilings, roofs, and components to include studs, ceiling and floor joists, diagonal bracing, cripples, trimmers, headers, fire blocks, sole plates, top plates, piers, girders, rafters, ridges, and bridging.

C.5.7.3. Steel Framing: The contractor shall layout, install, replace, repair, and remove interior and exterior walls, floors, windows, shade structure framing, ceilings and roofs.

C.5.7.4. Fences: The contractor shall layout, fabricate, install, repair, replace and remove wood fences IAW the following: Uniform Building Code, Latest Edition

C.5.7.5. Wall Coverings: The contractor shall layout, install, repair, replace and remove interior and exterior wall coverings such as wood paneling, wainscot, marlite, Formica, drywall, plasterboard, stucco wire, plywood, fiberboard, shiplap, acoustical tile, and Masonite.

C.5.7.6. Insulation: The contractor shall layout, install, replace, and remove insulation, e.g. (3 1/2" x 24" R-11, 6" x 24" R-15) in roofs, walls, floors, and ceilings.

C.5.7.7. Ceilings: The contractor shall layout, install, repair, replace, and remove ceilings such as sheetrock, acoustical tile, suspended ceiling, plywood, and Celotex.

C.5.7.8. Floor Coverings: The contractor shall layout, install, repair, replace and remove interior and exterior subflooring, underlayment, and finish floor coverings such as rubber, asphalt, or vinyl tile (9" x 9", and 12" x 12"), tongue and groove, plywood, wood parquet, quarry tile, and Masti pave.

C.5.7.9. Non-Skid Coverings: The contractor shall install, repair, replace and remove nonskid materials on such areas as stairs, steps, ramps, and docks. The contractor shall install nonskid materials IAW manufacturer's specifications.

C.5.7.10. Finish Carpentry: The contractor shall fabricate, install, repair, replace, and remove finish carpentry work such as interior and exterior metal and wood doors (single, double, Dutch, storm, screen, pocket, cabinet, overhead, sliding, bi-folding, latrine partition, and accordion) door frames, weather stripping, thresholds windows (sliding, double hung, jalousie, fixed and casement), window frames, hardware (door closers, hinges, door locks and knobs, barrel bolts, dead bolts, head and foot bolts, hasps, panic hardware, door bumpers, window arm, and window crank operators), accessories (map boards, fire extinguisher brackets, towel bars, toilet paper holders, robe hooks, medicine cabinets, shades, traverse rods, mirrors, grab bars), trim, molding, window screens, signs and small animal traps.

C.5.7.11. Cabinet Making: The contractor shall layout, fabricate, install, repair, and replace handmade items such as fine cabinetry, racks, shelves, showcases, storage units, file boxes, service counters, workstations, animal traps, special shipping crates, kitchen and bathroom cabinets, Formica tops, molding and trim, signs, picture frames, and plaques. The contractor shall fabricate cabinets by cutting, bonding, fitting, assembling, shaping and contouring surfaces, scrollwork using precise and intricate joining and decorating with power shapers, mortise, planers, jointers, routers, lathes and various other woodworking tools, accessories and machines. The contractor shall devise fixtures, templates, and jigs to hold or guide items in woodworking machinery.

C.5.7.11.1. Signs: The contractor shall layout, fabricate, assemble, install, repair, replace and remove various types of wood signs such as: name plates, large exterior and interior map, and bulletin boards with and without

roofs; redwood signs; uniform activity designation; information signs; building and door signs IAW the following:

FH Reg 420-11
UFC 3-120-01

C.5.7.11.2. Decorations: The contractor shall layout, fabricate, repair, replace, and remove various types of displays such as reindeer sleighs, wreaths, native scenery, and decorations for holidays and events such as parade floats, Christmas scenes, booths, and religious ceremonial items.

C.5.7.12. Forms: The contractor shall layout, fabricate, install, and remove a variety of forms for concrete placement such as headwalls, pads, sidewalks, stoops, and curbs.

C.5.7.13. Ceramic Tile: The contractor shall layout, install, repair, replace, and remove various types of ceramic tile such as bullnose, sanitary base, sanitary quarry, base bullnose, field, and sanitary base corners on floors and walls IAW the following:

American Standard Specifications for the Installation of Ceramic Tile 9d ANSI A137.1-1980
Manufacturer's Specification

C.5.7.14. Roofing: The contractor shall install, repair, replace, and remove various types of roofing such as gravel asphalt, rolled, monoform, shingle, industrial membrane, tile, slate, wood, and metal roofing. The contractor shall cut all roof penetrations, install roof jacks, and ensure that roof penetrations are sealed to prevent any kind of moisture leakage from roof penetrations. The contractor shall use various types of flashing such as gravel stop, roof edging, capping, counter flashing, shade structures canvas, and gravel stop fascia, with the appropriate roof applications IAW the following: Manufacturer's Specifications.

C.5.7.15. Debris Removal: The contractor shall cleanup, remove and dispose of debris from areas such as remodeling jobs, new construction and PM sites and when debris is generated by the work being accomplished, leaving work site in a broom clean condition or better.

C.5.7.16. Preventive Maintenance: The contractor shall perform PM on buildings and facilities listed in at 90-day intervals, buildings/facilities/structures not listed in TE 5.7.1. shall be repaired either by customer self-help or be repaired on submission of a service order. The contractor shall submit in writing a schedule of Preventive Maintenance of buildings, structures and facilities as required by PWS paragraph C.5.1.9. The contractor shall perform PM inspections and structural component inspections, e.g., (I beams, rafters, pillars), on above listed buildings, structures, and facilities to ensure that all inadequacies are corrected such as cracks, ruptures, weld defects, sags, separations, splits, dry rot, broken, twisted, bowed, doors out of track, rusted, torn, dragging, bent, poor fitting, holes, buckling, missing components, support failure, lack of weather tightness, leaks, stains, chipped, insecurely fastened, defective joints, adhesive failure, binding, pitted, punctures, worn, corrosion, swelling, weather damage, misalignment, absence of paint, frayed, flickering, burnt, clogged, leaking, and loose. The contractor shall correct inadequacies found during the PM and structural inspections on the PM cycle. The contractor shall submit deficiencies that require more than four hours of work to correct per unit on a Job Order Request (DA Form 4283) or a Service Order Request upon discovering any work that exceeds the scope of preventive maintenance requirements. The contractor shall perform PM in various trade categories such as carpentry, plumbing, heating, ventilation, air conditioning, HVAC controls, electrical (including electrical controls), paint, sheet metal, masonry, and glazing. The contractor must inspect building prior to scheduled PM date and coordinate with Building POC to ensure building access and escorts will be available.

C.5.7.17.1. Inspection of Joists and Trusses: The contractor shall perform PM on post facilities listed in TE.5.7.3. Annually. Joists, trusses, roof framing, and other structural members will be inspected by a qualified maintenance mechanic to assure structural adequacy.

C.5.7.17.2. Carpentry: The contractor shall accomplish PM on various items such as doors, windows, steps, hardware, walls, decks, stairs, bridges, stoops, ramps, ceilings, floors, bleachers, handrails, and fences. The contractor shall inspect and correct PM deficiencies.

C.5.7.17.2.1. Doors: The contractor shall accomplish PM on interior and exterior doors made of wood, metal, and aluminum, such as solid and hollow core, single and double hung, panel, swinging, Dutch, storm, screen bifolding, sliding closet, latrine partition, cabinet, overhead and vinyl accordion door frames, (casings, jambs, and stops,); thresholds, louvers, and paint

C.5.7.17.2.2. Windows: The contractor shall accomplish PM on interior and exterior windows made of wood, metal, and aluminum, such as sliding, double hung, jalousie, and fixed casement windows; security screens, window screens; remove rust, paint frame and glazing.

C.5.7.17.2.3. Walls: The contractor shall accomplish PM on interior and exterior walls made of wood, metal, and masonry, such as paneling, wainscot, marlite, Formica, dry-wall, plasterboard, Celotex, fiberboard, plaster, stucco, block, and brick; synthetic covering; install stainless steel corner guards, siding; and ceramic tile.

C.5.7.17.2.4. Ceilings: The contractor shall accomplish PM on ceilings such as plaster, sheetrock, plywood, metal, marlite, acoustical tile, and suspended ceilings will be sealed/repared to meet FH Fire Safety Inspections.

C.5.7.17.2.5. Floors: The contractor shall accomplish PM on interior and exterior floors and floor coverings such as tile, wood, ceramic, Masti pave, quarry tile, carpet, concrete, paint underlayment and subflooring.

C.5.7.17.2.6. Roofs: The contractor shall accomplish PM on roofs such as shingled, asphalt, gravel, mission tile, rolled roofing, and any flashing and roof penetrations. Contractor to repair and clean lower-level gutters, and downspouts.

C.5.7.17.2.7. Steps and Handrails: The contractor shall accomplish PM on metal, wood, and concrete stairs, steps, braces, rails, stringers, platforms, and stair treads.

C.5.7.17.2.8. Hardware: The contractor shall accomplish PM on hardware such as screen door closers, door closers, door locks, (privacy, and passage), doorknobs, striker plates, barrel bolts, head and foot bolts, hasps, door bumpers, dead bolts, panic hardware, push bars, rods, hinges, turn buckles, exit alarms, and window cranks.

C.5.7.17.2.9. Accessories: The contractor shall accomplish PM on accessories, within buildings, such as map boards, fire extinguisher brackets/cabinets/glass, signs, towel bars, toilet paper holders, robe hooks, medicine cabinets, shades, traverse rods, mirrors, soap dishes, soap dispensers, blackboards, bulletin boards, key boxes, paper towel holders, sanitary napkin holders, and blinds.

C.5.7.17.3. Plumbing: The contractor shall accomplish PM on plumbing components such as wash basins, commodes, urinals, utility sinks, kitchen sinks, shaving bowls, faucets, valves, showers, hose bibs, garbage disposals, supply lines, drinking fountain water filters, secure loose water fountains and drains.

C.5.7.17.3.1. Commodes and Urinals (Commercial Type): The contractor shall accomplish PM on commodes, urinals, and components such as rubber, relief valves, flush handle assemblies, discs, guides, valve piston assemblies, vacuum breakers, basket assemblies, spud nuts, gaskets, toilet seats, wax seals, "O" rings, slip joint washers, supply lines (chrome and copper), caulking/sealant, and compression nuts.

C.5.7.17.3.2. Toilets (Domestic Type): The contractor shall accomplish PM on toilets and components such as ball cocks, flappers, chains, head valve kits (seat washers, seat gaskets, seat caps), float arms, floats, ball seats with upper and lower lift rods, flush handles, supply valves and lines, stops, cone washers, friction rings, nuts, caulking

and toilet seats.

C.5.7.17.3.3. Faucets: The contractor shall accomplish PM on a variety of faucets, and components such as single and double (4", 6", 8"), metered, foot valves, frostless, single action, hose bibs, supply line valves "O" rings, washers, stem assemblies, seats, packing nuts, handles, spouts, and aerators.

C.5.7.17.3.4. Wash Basins: The contractor shall accomplish PM on wash basins and components such as pop-up assemblies, gaskets, ball rods, clips, springs, cap nuts, lift rods (upper and lower), rubber stoppers, garbage disposal covers, drain baskets, and thumb screws.

C.5.7.17.3.5. Showers and Tubs: The contractor shall accomplish PM on showers, tubs, and components, such as shower heads, goose necks, flanges, shower spouts, shower pans, check caulking insure no mold or mildew, and diverters.

C.5.7.17.3.6. Electrical: The contractor shall accomplish PM on electrical components such as sockets, fluorescent fixtures, starters, lamps, incandescent light fixtures, flood lights, exit lights, chandeliers, switches, receptacles, and covers, buzzers, bells, fuses, smoke detectors, fluorescent tubes, chains, light diffusers, switches, and junction boxes. The contractor will clean lights and covers and remove debris from fixtures.

C.5.7.17.4.1. Electrical Outlets and Switches: The contractor shall accomplish PM on outlets, switches, and wiring such as single pole, double pole, 3-way, running series, single circuit, single to five gang, 110 volts and 220 volts.

C.5.7.17.4.2. Fluorescent Light fixtures: The contractor shall accomplish PM on fluorescent fixtures and components such as single pin, bi-pin, high output fluorescent lamps, starters, pull cords and covers to include cleaning of bugs, dust, debris in covers and fixtures.

C.5.7.17.4.3. Incandescent Light Fixtures: The contractor shall accomplish PM on incandescent light fixtures and components such as single to four socket fixtures (porcelain, chrome), ceiling mount, wall mount, suspended, bulbs, sealed fixtures, main feed cords, globes, and face covers clean as needed.

C.5.7.17.4.4. Buzzers, Bells, and Smoke Detectors: The contractor shall accomplish PM on buzzers, bells, alarms and smoke detectors. The contractor shall report defective smoke detectors, building number and POC in writing within 24 hours.

C.5.7.17.4.5. Paint: The contractor shall accomplish PM on painted surfaces that require painting, during the PM cycle such as wood, metal, sheetrock, concrete, plaster and ensure all walls, doors, windows, ceilings that are chipped, gouged, and damaged have paint coverage and leave a professional finish.

C.5.7.17.4.6. Sheet metal: The contractor shall accomplish PM on sheet metal items such as downspouts, vents, vent stacks, duct work, drip caps, roof flashing, kick plates, molding, and gussets.

C.5.7.17.7. Records:

C.5.7.17.7.1. The contractor shall keep a current record of all buildings, facilities and structures receiving PM on Building Preventive Maintenance Record. The contractor shall enter the following information on the same working day that PM is performed on individual buildings, structures, and facilities: building, structure or facility number, date PM performed, check the appropriate boxes as to PM performed, enter number of hours expended on PM at building, initial line item, and enter in remarks column description of work performed. The contractor shall make available on request. Files shall be turned over to the contractor at the start of contract performance and the contractor shall return files to-AAC at the completion of the contract.

C.5.7.17.7.2. The contractor shall submit a written Preventive Maintenance Information Report on a recurring basis: 180-day intervals for facilities. The contractor shall deliver the completed PM information report to the CO or company designate representative. The contractor shall submit the following information on the PM Information Report: the number of buildings, structures, and facilities scheduled for PM during the reporting period and the total number of buildings, structures, and facilities that received PM from the schedule. This information shall be for the

preceding PM period (interval).

C.5.8. SHEET METAL WORK

C.5.8.1. Scope: The contractor shall repair, fabricate, modify, install, replace, and remove metal components of buildings, structures, and facilities; installed building equipment; firing range fixtures; dining facility equipment; kitchen equipment, and utility system components. The contractor shall ensure that all sheet metal requirements are performed by experienced personnel. The contractor shall match gauges and materials of existing components when components are being attached or replaced. The contractor shall cut, bend, saw, drill, spot weld, solder, and weld a variety of galvanized sheet metal, copper, aluminum, paint lock, stainless steel, angle iron, square stock, round stock, and black iron into numerous shapes such as square, rectangular, circular, conical, cylindrical, oval, irregular, and transitional shapes.

C.5.8.2. The contractor shall accomplish all work utilizing materials of the same quality or better than the similar components on the same building. The contractor shall perform all work so that the final product serves the purpose for which it was designed.

C.5.8.3. General Sheet Metal:

Gutter Work: The contractor shall design, layout, fabricate, install, repair, replace, and remove gutters, downspouts, and other components of a gutter system. The contractor shall match existing gutters and downspouts in design and gauge of materials such as ogee, K-type, box, half round, and corrugated (round and rectangular) downspouts; scuppers, conductor heads; expansion joints; inside and outside miters; hangers, elbows, strainers; spikes and ferrules; sumps; and splash pans. The contractor shall use materials such as galvanized metal, aluminum, and copper.

C.5.8.3.1. Flashing: The contractor shall design, layout, fabricate, modify, repair, replace, install and remove all types of flashing, molding and fascia such as gravel stop; 90 degree standard drip edge; custom flashing for chimneys, window and door lintels; coping; building setbacks; sills; spandrels at grade and under partitions; roof valley, hip, ridge and mansard roof flashing; counter flashing; parapet wall flashing; expansion joints; skylight flashing; drywall molding; tile molding; plaster grounds; picture frames; louvers; roof and wall penetrations; pitch pans; termite shields, mullion covers; and any special flashing, fascia and moldings.

C.5.8.3.2. Signs: The contractor shall cut, punch, round corners, file, trim, assemble, install, and remove signs of different materials and gauges such as aluminum, galvanized sheet metal, and black iron. The contractor shall install the signs on buildings, structures, vehicles, equipment, fences, and signposts. The contractor shall comply with the following:

Manual of Uniform Traffic Control Devices
FH Reg 420-11
UFC 3-120-01

C.5.8.3.3. Doors and Frames: The contractor shall design, fabricate, install, repair, replace, and remove metal doors, metal kick plates to wooden doors, gussets, trim, tracks, and metal covering of doors for security, overhead doors (track and cylinder rolled), sliding doors (metal and wood), aircraft hangar doors, access doors, and frames. The contractor shall adjust, repair, replace, install, and remove components such as cables, drums, springs, sprockets, rollers, tracks door panels, track hangers, gussets, handles, weather stripping, fastening devices, channels, hinges, eyebrows, personnel doors, metal window frames.

C.5.8.3.4. Awnings: The contractor shall design, layout, fabricate, install, repair, replace and remove metal awnings such as carports, porches, decking, walkway covers, doorway foyers, metal roofs, metal sheds, and other structures. The contractor shall match gauges of metal and designs of existing components on the facility where he is replacing or installing new components.

C.5.8.3.5. Metal Containers: The contractor shall design, layout, fabricate, install, repair, replace and remove containers such as storage bins, electrical wire troughs, cabinets, shelves, boxes, pans (splash and drip), tanks, pans with drains, troughs, scopes, shields for equipment and machines.

C.5.8.3.6. **Paneling**: The contractor shall design, fabricate, install, repair, replace and remove metal paneling for different types of applications such as fire protection; health, security, safety requirements; and general appearance improvements. The contractor shall layout and fabricate panel designs such as quilting (square and diamond shape), cross breaking, corrugated, ribbed, V-beam, flush panel and match existing design. The contractor shall use various gauges of stainless steel, copper, and galvanized materials to match materials on existing components to which the item is being connected.

C.5.8.3.7. **Lagging**: The contractor shall lag pipes, ducts, and equipment to preserve the insulation from weather deterioration. Lagging, used here, shall mean a covering, i.e., of metal, of polyurethane, etc., placed over insulation.

C.5.8.3.8. **Venting**: The contractor shall design, layout, fabricate, install, repair, replace, and remove breechings, stacks, caps, spark arrestors, bird screens, exhaust, fresh air intakes, combustion air, relief and all related fixtures on gas fired equipment, fireplaces, or any type of system or equipment which requires venting.

C.5.8.4. **Duct System**: The contractor shall design, layout, fabricate, install, modify, repair, replace and remove various types of duct systems such as heat, evaporative cooling, air conditioning, solar, exhaust, collector, and ventilating systems. The contractor shall fabricate, install, modify and remove accessories to duct systems such as mufflers, silencers, filter racks, flexible connections, insulation, control dampers, quadrants, fire dampers, turning vanes, extractors, straightening grips, mixing boxes and barometric, gravity dampers.

C.5.8.5. **Miscellaneous Metalwork**: The contractor shall design, layout, fabricate, modify, install, repair, replace, and remove security screens and cages, solar panels, hoods, kitchen equipment, trailer skirting, curtain rods and extensions, TV brackets, alarm grids, prefab metal structures, jail doors and other metal work as may be described on a valid work document.

C.5.9. RANGE SAFETY TELEMETRY SYSTEM

C.5.9.1. **Scope**: The contractor shall establish a preventative maintenance system for the Range Safety and Telemetry System (RSTS) to include, but not limited to:

- Daily inspection
- Monthly inspection
- Annual inspection
- Annual service of life report of critical systems
- Monthly service/repair work completed
- Annual Service/repair work completed
- Upgrade requirement for operational need
- Status of Spare for system support
- Critical Failure repair and reason

C.5.10. PAINT:

C.5.10.1 **Scope**: The contractor shall prepare surfaces; apply primers; mix and match paints; apply stains, shellacs, varnishes, lacquers, and special paint applications (e.g. launch stool ablative). The contractor shall prepare and paint artwork, signs, special designs, and murals. The contractor shall ensure that painting and signs requirements are performed by contractor experienced personnel as delineated in C.1.3.3. Paint will be supplied IAW C.5.12. after the contractor has obtained details regarding color and type of paint from AAC.

C.5.10.2. **Interior and Exterior Painting**: The contractor shall paint the interior and exterior of all buildings, structures, and facilities detailed in AAC MIS. The contractor shall paint items such as walls, ceilings, railings, decks, floors, roofs, window frames, doors, doorframes, moldings, handrails, stairs, fire hydrants, gates, steps, stands, fences, carports, decking, equipment, ramps, towers, awnings, bleachers, flagpoles, gutters, radiators, cabinets, bulletin boards, and animal traps. The contractor shall paint different types of surfaces such as wood, drywall, plaster, metal, concrete, masonry, rocks, fiberglass, plastic, and glass. Painting of facilities and buildings under this functional area will normally be that painting required in conjunction or because of repair, maintenance, or minor construction. Periodic painting of facilities and buildings will not normally be scheduled under this functional area.

C.5.10.2.1. Surface Preparation: The contractor shall prepare all surfaces to include removing contaminants prior to applying primers, paints, stains, shellacs, varnishes, or lacquers. The contractor shall use preparation methods such as sanding, sand blasting, solvents, acids, pickling, and paint removers. The contractor shall repair and patch any imperfections on surfaces with wood putty, glazing compound, sealers, plastic wood fillers, spackling, joint compound, caulking, primers, and cement.

C.5.10.2.2. Paint Application: The contractor shall apply paint to ensure that finished surfaces shall be free of runs, drops, ridges, waves, laps, brush marks, and any variations in color, texture, and finish. The contractor shall apply each coat of paint as a film of uniform thickness so that all surfaces including edges, corners, crevices, welds, and rivets receive a film thickness equivalent to that of adjacent painted surfaces. The contractor shall allow sufficient time to elapse between successive coats to permit proper drying. This period shall be modified as necessary to suit adverse, local weather conditions.

C.5.10.3. Mixing, Matching, and Thinning: The contractor shall mix paints to ensure that they are completely blended with no color variation, lumps, and foreign matter before application. The contractor shall not mix paints from different manufacturers. The contractor shall use tints to match existing colors and colors specified and approved. The contractor shall thin paint prior to application when necessary to suit conditions of surface, temperature, weather, application conditions with not more than one pint of suitable thinner per gallon. The use of thinner shall not relieve the contractor from obtaining complete hiding or cover of surfaces.

C.5.10.4. Finish and Refinishing: The contractor shall finish and refinish different types of surfaces and materials. The contractor shall sand, stain, varnish, shellac and lacquer picture frames, tables, bookshelves, book cases, bulletin boards, easels, podiums, plaques, desks, paneling, wainscot, doors, cabinets, benches, redwood signs, stairways, chairs, railing, wooden floors, redwood fences, and any other surfaces, and materials.

C.5.10.5. Dry Wall: The contractor shall tape, patch, and finish dry wall. The contractor shall reset all nails, tape all joints, cracks, holes, and texture and paint dry wall. The contractor shall use perforated tape and apply three coats of joint compound (mud) on all dry wall joints, cracks, and holes. The contractor shall allow every coat of mud to dry completely before application of the next coat. The contractor shall apply different types of wall textures such as smooth finish, California, Spanish finish, icicle finish, and roll on finish.

C.5.10.5.1. Parking Areas: The contractor shall layout and design parking stalls and stripes of parking areas when requested on a valid work document. The contractor shall paint parking area stripes 4" to 6" in width with white/yellow traffic paint and ensure that all specifications, prints, and drawings comply with required specifications. The contractor shall coordinate parking area striping when parking areas require restriping or new layouts. The contractor shall use traffic cones and barricades, for traffic control in parking areas being striped. The contractor shall stripe heavy traffic flow areas during the early morning and late evening hours. The contractor shall seal off painted areas with traffic cones and barricades when painting until painted area is dry. The contractor shall paint striping and traffic control markings on designated parking areas. Handicap parking spaces will be done on Recurring Maintenance to include signs. The contractor shall adhere to specifications for all pavement markings in the following: Manual of Uniform Traffic Control Devices

C.5.10.6. Sign Work: The contractor shall repair, fabricate and install traffic signs in strict conformance with the standards set forth in the Manual of Uniform Traffic Control Devices for Streets and Highways. The contractor shall layout and fabricate and install signs as directional, regulatory, Fire Danger Signs, Force Protection Signs, Traffic, Handicap, Road/Traffic/Detour change signs and informational signs as needed by DPW on Recurring Maintenance.

C.5.10.6.1. Special Signs: The contractor shall layout and paint special traffic or information signs. The contractor shall fabricate, repair, and install special type signs, directional, and regulatory signs. The contractor shall maintain signs on Recurring Maintenance.

C.5.10.7. Recurring Maintenance: The contractor shall perform Recurring Maintenance on all traffic control signs, building identification signs, fire hydrant street reflectors, Fire Danger Signs, Force Protection signs, Handicap parking Signs, Traffic Change signs, Detour, Hazard, Speed Limit changes, facility Numbers, Interior

Building Signs, Exterior Building Signs, object markers, move building identification and directional signs, Redwood signs, and cross walks. Recurring Maintenance will be used also to maintain Blue/White even directional signs, AER, CFC signs, museum directional signs, bus stop signs, electrical grounding stencil/paint, plum post, utility warning signs, arms room/rife rated door signs and other shop stored signs as outlined in C.5.10. the following:

Manual of Uniform Traffic Control Devices
U.S. Department of Transportation Federal Highways Administration FH Regulation 420-11
UFC 3-120-1
IMCOM – West Policy for Traffic
Retroreflectivity

The contractor shall develop a recurring maintenance plan for maintaining such signs. The contractor shall be responsible to identify and repair damaged, faded signs within 5 working days of discovery. The contractor shall update identification signs and other signs as directed. The contractor shall use skilled craftsman in all functional areas as required to perform sign maintenance which include fabrication and installation of signs.

C.5.11. GLASS

C.5.11.1. Scope: The contractor shall replace broken, cracked glass with new glass in buildings, structures, and facilities. The contractor shall maintain, inspect, repair, and replace automatic door operators. The contractor shall ensure that glazing requirements are performed by experienced contractor personnel as delineated in C.1.3.3.

C.5.11.2. Glass and Glazing: The contractor shall cut, replace, and remove glass on different types of doors, windows, mirrors, cashier booths, display counters, bulletin boards, cabinets, desktops, and any other components requiring glazing. The contractor shall secure windows and doors with 1/2-inch plywood when glass required is not available. The contractor shall ensure that all glass debris is picked up and disposed of.

C.5.11.2.1. Doors and Windows: The contractor shall glaze interior and exterior doors and windows, such as glazed aluminum sash, steel sash, channel aluminum, wood sash, and beaded aluminum. The contractor shall use glazing compound, clips, angles, beads, splines, moldings, weather stripping, and spacer strips. The contractor shall replace glass in doors and windows with the same thickness. The contractor shall comply with specifications in the Universal Building Code.

C.5.11.2.2. Tinting of Glass: The contractor shall install or replace sunshield on windows and doors in buildings, structures, and facilities.

C.5.11.2.3. Special Project: The contractor shall layout, design, cut, drill, grind, and bevel all special glass projects such as, finger grips, shelves, cashier windows, safety shields and mirrors for vehicles.

C.5.11.3. Electric Automatic Door Closures: Maintenance, Repair, Replacement: The contractor shall maintain, inspect, repair, replace, and remove all electrical automatic door closures as needed. The contractor shall notify the Contracting Officer and the manager of the facility, at least 30 minutes before entrances with electric automatic door closures must be secured due to repair or replacement. The contractor shall perform Recurring Maintenance on electric automatic door closures at 30-day intervals and other work as requested by a valid work document. The contractor shall maintain, correct deficiencies, repair, replace, adjust, and calibrate electrical, mechanical, and hydraulic components, and maintain fluid levels in accordance with the manufacturer's specifications. The contractor shall replace, as required, components and parts with manufacturer's replacement parts and shall maintain the inventory of components and repair parts at recommended quantities.

C.5.12. SUPPLY AND STORAGE

C.5.12.1. Scope: The contractor shall provide trained personnel to manage and operate Supply and Storage Activity. The contractor shall perform functions associated with proper management and operational control of all Facility Engineers (FE)- supplies, parts and materials under this contract. Supplies and materials referred to in C.5.12., hereafter in C.5.12. throughout, shall mean Government owned Facility Engineer supplies, parts, and

materials. Normal hours of operation shall be from 0800-1700, Monday through Friday except legal Government Holidays. Occasionally, the contractor shall be required to issue supplies and materials at hours different from normal hours of operation due to emergencies or mission support. The contractor shall provide a weekly on-call roster to the CO or designated company representative, to allow AAC to notify the contractor whenever emergency issue of supplies and materials is necessary. The roster will identify by name, phone number, or pager number, the supply person to be called for emergencies.

C.5.12.1.1. Customers: The term "customers" throughout C.5.12. shall mean both Operations & Maintenance (O&M) contractor workforce, individual military, and civilian customers.

~~C.5.12.1.1.1.~~ AAC Supply MIS is normally operational between the hours of 0:01 a.m. to 12:00 p.m. each workday. If the system is nonoperational due to system failure of the system, AAC will notify the contractor that the system is not available for contractor use. Once the system is operational, AAC will notify the contractor that the system is available for contractor use.

C.5.12.1.2. The contractor shall input Supply and Storage data into AAC MIS. AAC will provide initial training when systems are changed, or new systems developed. The contractor will be responsible for training of all new personnel hired to the project.

C.5.12.1.3. Removed.

C.5.12.1.4. Data Input Errors and Corrections: The contractor shall identify all data errors input into AAC MIS by contractor personnel. Data errors shall include Correct information incorrectly keyed into the system, incorrect information keyed into the system, and omissions of data required to be keyed into the system. After the contractor identifies the error, or AAC has notified the contractor of the error, the contractor shall provide information to AAC representative for correction in the MIS.

C.5.12.1.5. The MIS module provides operational control of AAC supply function and a means of entering and extracting data relating to: Inventory control, item identification, cataloging, pricing, stock location, sources of supplies, units of order and issue, items, and quantity on hand and due out, standby and seasonal items, excess items, and reorder points; generates local purchase requisitions, individual issue documents to customers,, inventory work sheets, audit trails of supply actions, listings of daily issues and receipts, local purchase requests (LPR), reorder reports, transaction histories, inventory adjustments with debits and credits, managerial reports, and product catalogs.

C.5.12.1.5.1. The contractor shall operate the MIS module in support of this contract. The contractor shall not make changes to the software without prior written approval from AAC. The contractor shall be responsible to provide computers, printers, and fax machines to operate.

C.5.12.2. Supplies: AAC will furnish all Facility Engineer supplies and materials required by the contract.

C.5.12.3. Contractor's Internal Procedures (CIP): The contractor shall prepare and submit to the CO or company representative, a copy of the Contractor's Internal Procedures (CIP) detailing how the contractor will operate the supply and storage system. The CIP shall address, at a minimum, the following areas: Contractor safeguarding of supplies and materials, contractor procedures to process requests for supplies and materials, contractor warehousing procedures, contractor receiving procedures, contractor issue procedures, contractor due out procedures, contractor inventory procedures to include adjustments to inventory, contractor turn in procedures for both serviceable and unserviceable material, procedures for placing and tracking bar coding identification on material upon receipt, and the contractor's record keeping procedures. The contractor shall identify these procedures for all hazardous material management to include tracking and disposal. The contractor shall submit the CIP prior to contract full performance date. The contractor shall update the CIP as changes occur and shall submit the revised CIP to the CO or company representative, not later than 30 days prior to the proposed effective date of the revision.

C.5.12.4. Warehousing of Supplies and Materials: The contractor shall store (warehouse) supplies and materials IAW DOD Regulation 4145.19-R-1. The contractor shall limit access to areas where supplies and

materials are stored; to allow only authorized personnel.

C.5.12.4.1. Pilferable Supplies and Materials: The contractor shall control, manage, and use so as not to cause pilferage, all GFE supplies and materials furnished under the contract. Pilferable materials and supplies shall be stored and controlled by the contractor. All outside storage fences will be inspected each workday to identify if any intrusions have taken place.

C.5.12.4.2. The contractor shall maintain all Supply and Storage warehousing and operational areas in an orderly and clean condition. The contractor shall remove all refuse and debris generated by contractor Supply and Storage operations at the end of each workday.

C.5.12.5. Accountability for Supplies and Materials: The contractor shall be responsible for all Facility Engineer supplies and materials furnished at the start of the contract and for supplies and materials which are received during the contract, until the supplies and materials are issued or otherwise legally disposed of. The contractor will be provided a copy of the inventory of supplies and materials furnished at contract start date, by AAC. The contractor shall update this inventory by use of the MIS module as the contractor issues from or adds to the inventory. The contractor shall perform inventories of all supplies and materials, in their possession, at the end of each contract year. The contractor shall conduct a location survey once each year prior to the inventory to identify locations of supplies and materials and shall include locations on inventory documentation. AAC will adjust inventory discrepancies, and shall generate a printed Inventory Adjustment Report and a printed updated inventory from the MIS module IAW the MIS User's Manual and shall furnish the original inventory documents. A copy of the beginning and ending inventory will be provided to the contractor after all documents have been approved NLT 2 working days after completion of the inventory.

C.5.12.5.1. To facilitate surveillance of contractor work performance, the contractor shall provide all original receipt, issue, and turn in documents. At the end of each contract year all records will be boxed in proper order and turned over to AAC.

C.5.12.6. Sales Receipts: The contractor shall provide the customer an MIS generated receipt of the sale at the time of issue which includes date of issue, document number, item description, quantity issued (for each item), unit cost, total cost (per item), and total cost (all items).

C.5.12.7. Requests for Supplies and Materials:

C.5.12.7.1. Customer Requests for Supplies and Materials: The contractor shall receive, Request for Issue or Turn In, for items required to complete a work document or satisfy a customer request. The contractor shall ensure accepted from a customer contains the following information:

- Point of contact and phone number
- Date requested
- Priority
- Work document number Phase (if applicable)
- National Stock Number (NSN)/Part number
- Item description to include grade of materials (if applicable) (Standard abbreviations may be used)
- Unit of issue
- Quantity requested
- Known source of supply, if available
- End Item
- Manufacturer Name
- SDS Data sheet (if required)

C.5.12.7.1.1.1. If the supplies and materials are available for issue, the contractor shall issue the supplies and materials to the customer.

C.5.12.7.1.1.2. If the supplies and materials are not available for issue to the customer, the contractor shall inform the customer that the supplies and materials are not available and must be ordered, shall initiate due out procedures and shall forward the customer's request to AAC.

C.5.12.7.2. Processing of Receipt Documents: Receipt documents are processed by the contractor after receipt of the cover sheet prepared by AAC buyers.

C.5.12.8. Issue of Supplies and Materials: The contractor shall issue supplies upon receipt of a valid request for issue. To ensure only authorized contractor personnel receive supplies, a complete list of contractor employee names will be submitted to the supply manager. This list will be kept current and will be updated as new employees are added to the contract or as employees leave the contract.

C.5.12.8.1. At the time of issue, the contractor shall either manually enter the Material Control Number (MCN) or National Stock Number (NSN) for each item, and quantity being issued, into the MIS Issue screen, or optically scan each item and manually input quantity. A copy of the Safety Data Sheet will be provided on all issues of hazardous materials.

C.5.12.8.1.1. The item is in warehouse location and the quantity on-hand (physically in location bin) is not the same as reflected in MIS, the contractor shall freeze the item in MIS and submit an IAR to the Accountable Officer within 1 workday.

C.5.12.9. Rebuild Program for Repairable Supplies: The contractor shall prepare documentation and transport such repairable items as compressor cores, motors, pumps, generators, etc., to local vendors for restoration to new, or like new condition. The local vendors provide replacements less the cost, or credit, for item turned in.

C.5.12.10. Loading and Delivery of Materials: The contractor shall load bulk issues, which includes large or numerous items, onto the customer's conveyances at the issue points or storage areas. After coordination with requesting customers, the contractor shall make bulk issue deliveries to various areas on PSCA. The contractor shall schedule weekly pick up of materials purchased from local vendors. Parts required for emergency priority jobs will be picked up as needed. Bulk issues are only those issued to an authorized supported customer, not contractor personnel within this contract. The contractor shall select, load, and deliver materiel to requesting customers and unload materiel in customer's designated storage or delivery areas.

C.5.12.11. Material Handling Equipment: The contractor shall operate warehouse material handling equipment (forklifts) in support of the contract. All personnel operating material handling equipment will possess a valid operator's license. The contractor shall be required to move and place large bulky and heavy materials such as electric motors, loaded pallets and wooden or metal storage containers.

C.5.12.11.1. The contractor shall operate this equipment in a safe and efficient manner to preclude harm to personnel, equipment, supplies and materials, and facilities. The contractor shall perform safety checks and first echelon maintenance at the start of each workday and shall maintain records verifying safety inspections. Forklifts will be placed on a weekly dispatch (Monday through Sunday) to ensure safety checks and maintenance is being performed.

C.5.12.12. Supply and Material Turn In: The contractor shall initiate turn in paperwork on any supplies and materials which have been determined by AAC to be excess, unserviceable, or no longer required. The contractor shall prepare and deliver not later than 10 working days after turning in of the item(s), by the customer, to the contractor's Supply and Storage Section.

C.5.12.13. Turn In of Serviceable Materials: The contractor shall receive Requests for Issue and Turn in, whenever unused, serviceable materials are to be returned to residual stock. The contractor will assure that proper credit is provided against the job for which the materiel was originally issued. The contractor will provide a list of all excess material turned-in against an IJO to the Accountable Officer. This list will include the stock number, quantity, and reason why material is excess. Examples of these types of materials are items issued against a work

document but not installed due to cancellation of the work document. The contractor shall fill existing requests for supplies and materials with these items where applicable. When new serviceable items become excess, the contractor shall furnish a listing of these items to the Accountable Officer for disposition instructions.

~~C.5.12.14.~~ DLA Disposition to Dispose of Excess Used Material and Scrap: The contractor shall turn in excess, unserviceable and scrap material at a minimum of once per month.

C.5.12.17.1 The contractor shall maintain a separate temporary storage area for scrap items that are awaiting turn in. The contractor shall store and tag these items denoting status of material and date material was placed in temporary storage awaiting turn in.

C.5.12.15. Hazardous Material Handling: Upon receipt of Hazardous Material the contractor shall receive a Safety Data Sheet with the product or request one from the vendor. All items shall be labeled before being placed in stock or given to the craftsman. A report will be submitted to AAC Accountable Officer the first working day of every month detailing the number of items that were labeled the previous month. The MIS shall be used to report the use and disposal of hazardous material. The contractor shall review an item in stock to determine the shelf life of the product and determine if a disposal is required. The contractor shall provide a Standard Operating Procedure (SOP) within 30 days of the start of the contract on the handling of hazardous materials.

C.5.12.15.1. The contractor shall receive, control, and temporarily store all hazardous property turned in from contractor activities and shall coordinate all disposal and turn in with the Hazardous Waste Storage Facility prior to turn in.

C.5.12.15.2. The contractor shall comply with existing Federal, DOD, State and local laws, codes, and regulations in the labeling, packaging, movement, and temporary storage of all hazardous property.

C.5.12.16. Compressed Gases and Gas Cylinders: The contractor shall store, handle, dispose and perform quality surveillance of Government furnished compressed or liquefied gases and gas cylinders as directed by the Accountable Officer.

C.5.12.16.1. The contractor shall issue compressed gases to customers IAW paragraph C.5.12.10. The contractor will inventory all compressed gas and gas cylinders currently on hand and provide same to the Accountable Officer by serial number not later than fifteen (15) calendar days prior to contract full performance date and not later than December 31 of each calendar year.

C.5.12.16.2. Government furnished cylinders, when unserviceable, shall be disposed of in accordance with DSAR 4145.25 and paragraph C.5.12.16. and paragraphs C.5.12.17. or C.5.12.19 as applicable, and as directed by the Accountable Officer.

C.5.12.16.3. All empty cylinders being removed for filling will be recorded, by serial number, with a copy furnished to the Accountable Officer.

C.5.12.17. Shop Stock/Truck Stock: The contractor may stock selected Facility Engineer supplies and materials as Shop/Truck Stock items to assist the contractor in performing the requirements of the contract. The contractor shall develop a list of Facility Engineer supplies and materials for each shop that the contractor wishes to stock supplies and materials in as shop/truck stock and shall submit the list(s) to the CO or company representative review and subsequent approval/disapproval prior to contract full performance date. Only items with a value less than \$50.00 will be authorized. Items with a value greater than \$50.00 must be approved by the Accountable Officer. If approved, the lists will become Authorized Stockage Lists (ASL) for the shop(s). The lists shall contain as a minimum, the following: description of the item, national stock number (NSN) or Management Control Number (MCN), manufacturer's part number, quantity to be stocked, unit of issue (UI), unit cost, total cost per line item, and total cost for all line items. The list shall be signed and dated by the contractor's Project Manager. The contractor shall update the list(s) prior to the end of each fiscal quarter and shall submit the updated list(s) to the CO or company representative not later than the last working day of each fiscal quarter for approval/disapproval. If the contractor elects to stock items as shop stock, the contractor shall develop and submit a plan for accountability of all items authorized as shop stock. The contractor shall submit this plan to

the CO-or company representative for approval not later than 15 working days prior to contract full performance date. The contractor may stock consumable items as truck stock. Consumable items are defined as bulk purchase items such as nuts, bolts, screws, washers, nails, etc.

C.5.12.17.1. All excess material that has not been consumed at the end of the contract period will be returned to the Facility Engineer inventory.

C.5.12.18. Reports: The reports listed below will be submitted to the Accountable Officer as stated.

C.5.12.18.1. The contractor shall submit by 9:00 a.m. each workday a report containing the following information:

- Number of service orders in the supply system awaiting material.
- Number of service orders/jobs with all materials on-hand ready for issue to customer.
- Number of service orders/jobs completed that day.
- Total number of service orders/jobs in supply system.

C.5.12.18.2. The contractor shall submit a monthly report containing the total number of each supply transaction performed. The report will be submitted NLT COB the 2nd working day of each month for the previous months data.

C.5.12.19. Buildings: AAC will make available to the contractor the following buildings and areas to perform the Supply and Storage functions under the contract: Building Maintenance Storage Facility Bay III. The contractor shall use Building Maintenance Storage Facility Bay III-as the main issue point. In the Supply and Storage area assigned to the contractor, trash shall be emptied daily, swept, or vacuumed weekly and mopped as needed but no less than once per month.

C.5.13. HIGH VOLTAGE ELECTRICAL DISTRIBUTION SYSTEMS:

C.5.13.1. Scope: The contractor shall operate, maintain, repair, install, and test high voltage exterior systems. The exterior electrical systems and components are found in a wide variety of buildings ranging from storage areas to complex electronic-electrical testing and proving areas as well as open test areas and facilities. The contractor shall perform electrical repairs, replacement, maintenance, and testing in a manner which assures a safe and reliable electrical system. All work shall conform to the requirements for the environment in which the equipment is located. Examples of high voltage equipment are Launch Pad lighting, water systems, and Range Safety Telemetry Systems. When requested, contractor will assist other high voltage contractors on the installation when an unforeseen electrical problem should occur to expedite electrical service as soon as possible.

~~C.5.13.1.1.~~ Detailed Electrical Distribution maps will be turned over to the contractor at contract start-up and shall be returned to ~~The~~ AAC at contract completion or termination.

C.5.13.1.2. Qualifications: The contractor shall provide **Journeyman electricians** IAW C.1.3.4.4.1 through C.1.3.4.4.3.

C.5.13.1.3. Reports: The contractor shall furnish and/or make available to the Contracting Officer's Representative or representative a copy of all checklists and report forms when requested (i.e., daily, weekly, monthly, quarterly, semi-annual, and annual frequencies) for all requirements listed in C.5.13.

C.5.13.2. Safety: The contractor shall ensure that all work done on Electrical Distribution Systems conforms with safety precautions listed in the following:

- EM 385-1-1, par 07.1, and all of sec 15 NEC
- NESC
- Operations and Maintenance Manuals
- All applicable distribution manuals and codes
- "Internal Measures Program" dated 30 Oct 80, U.S. Court of Appeals

C.5.13.2.1. Recurring Maintenance: The contractor shall have a high voltage electrician performing recurring maintenance (RM) 8 hours per day, 5 days per week (excluding holidays), and 52 weeks per year. Personnel shall be re-assigned for critical situations, i.e., scheduled power outages and special events. Frequency of RM on equipment will be accomplished per manufacturer's recommendations and/or industry standards. When necessary, the contractor shall schedule work and power outages when repairing or replacing equipment. The contractor shall develop a daily RM checklist to include the following information, as a minimum: location, date and time, frequencies, last inspection date, and 1st work date. The contractor will complete a checklist daily with descriptions of inspection and work to be accomplished, personnel involved, and hours. Hours for this requirement are listed in C.5.20.3. Replacing or repairing of all existing equipment, transformers, switches, hardware, services, etc., shall be performed on the recurring maintenance IJO for airfield and water wells.

C.5.13.3.. Environmental: The contractor shall ensure that all work done on the electrical distribution systems and equipment conforms with all environmental regulations, applicable to the area of work as detailed below.

C.5.13.3.1. PCB Contamination: The contractor shall treat any electrical equipment oil spill as PCB (polychlorinated biphenyl) contamination until an oil sample test has been made by the contractor to determine the degree of contamination. All PCB spills shall be reported telephonically by the contractor within 30 minutes of the spill or its detection.

C.5.13.3.1.1. PCB Equipment Removal and Replacement: The contractor shall replace any leaking equipment found to be PCB contaminated, remove the contaminated equipment, and dispose of it. The contractor shall be responsible for turn-in of the contaminated equipment, and transportation and safety precautions when dealing with PCB equipment. The contractor shall clean up any PCB spill that is determined to be caused by the contractor at no additional cost to AAC.

C.5.13.3.1.2. Inspection of PCB Equipment: All equipment known to contain PCB at contaminated levels is listed in TE 5.13.1. The contractor shall perform a weekly inspection of the equipment on this list to detect leaking equipment. Existing PCB equipment discovered during the contract shall be added to this list for regulation inspection. All equipment found to be leaking shall be handled by the contractor IAW section C.5.13.3.1.1. above and applicable regulations.

C.5.13.3.1.2.1. PCB Inspection Report: The contractor shall complete and file a "PCB Inspection Report" weekly. Information required is equipment, the dates of all inspections, equipment status and remarks including repairs made, equipment replaced, tests made, and PCB equipment disposed of. The existing records shall be turned over to the contractor at contract start up and the records shall be returned to The AAC at contract completion or termination.

C.5.13.3.2. Wildlife and Resource Conservation: Wildlife conflicts encountered during the execution of contract work, such as bird nests found in pole structures, shall be referred to the Regulated Authority for assessment and disposition. Except in cases of imminent danger to human life, the contractor shall not disturb wildlife encroachments into work areas until approved by an official. Similarly, discovery of, or encroachment on archaeological sites or artifacts by the contractor shall be immediately referred to AAC. Work around discovery will stop until direction is given to proceed.

C.5.13.4. Continuity of Service. The contractor shall provide sufficient maintenance personnel to assure continuous operation. The contractor's performance in keeping these items operating normally within time frames and downtime allowances shall be closely monitored by AAC to assure reliability rates are met.

C.5.13.4.1. Installation Power Availability Priorities: The following list details the Installation Power Availability Priorities; considerations are listed in descending order of priority:

- a. Human life and safety.
- b. Launch Pads
- c. Facilities
- d. Secondary Pads

- e. Utility Infrastructure
- f. Circuits that affect critical missions, where loss of power would affect long term testing or equipment damage. Critical missions shall be designated by the COR.
- g. Water Pumping Facilities.

C.5.13.5. Elements of High Voltage System Work under This Contract.

C.5.13.5.1. Underground Distribution System: The contractor shall perform RM, install, maintain, repair, and test all underground distribution secondary electrical systems IAW the following:

NEC
Operations and maintenance manuals

Types of work to be included are inspection, repair, replacement, adjustment, maintenance, and testing of cables, conductors, terminators, manholes, pull boxes, transformer vaults, transformers, splices, fuses, cutouts, lightning arrestors, capacitors and capacitor banks, and circuit breakers.

C.5.13.6. Exterior Lighting Equipment:

C.5.13.6.1. Types of work shall include recreational lighting, obstruction lighting, security lighting, aviation lighting, hangar lighting, hazardous area lighting, perimeter lighting, parking lot lighting, and lightning protection of lighting systems, the associated power supplies, controls, protective devices and hardware for the lighting systems.

C.5.13.6.2. Grounding Systems: The contractor shall repair, replace, maintain, install, and test grounding systems IAW the following:

NEC
NFPA-99
NFPA-101

Types of work include ground wells, ground planes, ground grids, pole grounds, transformer grounds, and ground rods.

C.5.13.6.3. Control Systems Communications Lines: The contractor shall repair, replace, install, maintain, and test real property control systems communication lines and cables IAW:

NFPA-99
NFPA-101

Types of work shall include poles, hangars, hardware splices, cables, guys, terminal boxes, conduit, grounds, weather heads, cable tensioning and sag, and lightning protection. Upon receipt of a valid work document, the contractor shall attach, tension, and sag non-real property communications lines disturbed in the normal course of overhead pole line maintenance.

C.5.13.6.4. Clearances: The contractor shall provide clearances for excavation. The contractor shall mark the locations of underground distribution lines by stakes and paint as site conditions warrant per C.5.16.9.1. The contractor shall provide clearances within 2 working days of notification. The contractor shall provide emergency excavation clearances when required. Emergency excavation clearances will be handled IAW Priority I work.

C.5.13.7. High Voltage Primary Inspections and Tests:

C.5.13.7.1 System Phasing: No part of any repaired primary system shall be connected to the existing grid

and/or energized prior to performing a phasing check on the affected primary and making the necessary corrections. Normally, the contractor shall perform this check on all work, either the work was done by himself or by others. When the check is performed by others, the contractor shall witness the phasing check and/or verify correct phasing with his own independent check.

C.5.13.7.2. Hi Potential Testing: No part of any new or repaired underground primary system shall be energized prior to performing a direct current Hi potential test on the affected primary. The Hi potential test machine used shall be certified to be within calibration, and a copy of the calibration certificate shall be filed with the Hi potential test report. Hi potential testing shall be performed according to the procedures outlined in IEEE standard 131. When the Hi potential test is performed by others, the contractor shall witness the testing and shall not energize the new or repaired section until he has received copies of both the satisfactory Hi potential test report and Hi potential test machine calibration certification.

C.5.13.7.3. Hi Potential Test Reports: The contractor shall maintain a database of all Hi potential test reports and accompanying Hi pot machine calibration certifications, whether the tests are performed by his personnel or by others. Reports shall contain the following minimum information; reports prepared by others shall be annotated by the contractor to ensure that all information is present.

- a. Test location, including circuit #, machine location, and circuit open points.
- b. Test date, time (start)
- c. Weather conditions at time of test (approx. temp, humidity, wind)
- d. Machine make, model, serial number, and calibration due date.
- e. Operator name and company
- f. Test results: For each conductor: step voltage, duration, leakage, current minimum 53 KV, maximum 65 KV)
- g. DPW and other Government personnel present for test
- h. Maintenance contractor personnel witnessing test (if applicable)
- i. Other contractor personnel witnessing test.
- j. Date and time circuit is energized.

C.5.13.8. Scheduled Power Outages: The contractor shall provide scheduled power outages for construction, maintenance, repair, engineering evaluation, and other purposes, as requested to do so. The contractor shall survey and assess the extent of the area affected to include all facilities and notify all affected customers of the outage, dates of the outage, the length of time of the outage, and make any special provisions with the customer if reactivation of the system will have any impact on the customers' facilities.

C.5.13.8.1. The contractor shall provide to the CO, or designated representative, in a letter format all information related to the scheduled outage to include: Type of outage, scheduled dates, scheduled hours, areas and building numbers, listing of all customers with their concurrence or non-concurrence to the scheduled outage, and any special provisions related to the outage. This letter shall be submitted NLT 15 calendar days prior to the scheduled outage date.

C.5.13.9. Equipment Identification: The contractor shall maintain, and where missing, install external field applied identification labeling on overhead and underground equipment, poles, and circuits. Existing labels not complying with the guidance below shall be replaced or amended as appropriate. Any changes to label information during the contract shall be made within 8 working hours. Equipment and circuits added or installed during the contract will be labeled accordingly. Some equipment designations are given in the technical exhibits; The AAC will supply upon request any additional information and guidance not given here.

C.5.13.10. Changes, Additions, and Information to be Recorded on Lighting Maps:

- a. Light Fixture: Wattage and Type (Incandescent (I), Metal Halide (MH), Mercury Vapor (MV), High Pressure Sodium (HPS), Low Pressure Sodium (LPS)).
- b. Lighting Circuits: Circuit runs, wire size and conductors; duct size (underground), and supply point and voltage. Lighting suspended from structures other than poles need not show conductors, conduit, voltage, or supply point.

C.5.14. INTERIOR ELECTRICAL SYSTEMS

C.5.14.1 Scope: The contractor shall repair, maintain, install and test interior electrical systems and components on various facilities. The interior electrical systems and components are found in a wide variety of buildings ranging from storage areas to complex electronic testing and proving areas, and open test areas and facilities. The contractor shall perform electrical repairs, replacements, maintenance and testing in a manner which assures a safe and reliable electrical system. All work shall conform to the requirements for the environment in which the equipment is located.

C.5.14.1.1. The contractor shall perform work on electrical systems and components IAW the safety requirements in the following:

EM 385-1-1
NEC
NFPA-99
NFPA-101

C.5.14.1.2. Reports: The contractor shall furnish and/or make available to the Contracting Officer or representative, a copy of all checklists and report forms when requested (i.e., daily, weekly, monthly, quarterly, semi-annual, and annual frequencies) for all requirements listed in C.5.14. and its associated technical exhibits

C.5.14.2. The contractor shall repair, maintain, install, and test interior electric wiring and wiring systems IAW the following:

NEC NFPA-99
NFPA-101

Types of components and systems include: electrical conduit of all types including Electrical Metallic Tubing (EMT), rigid metal conduit, intermediate metal conduit, flexible metallic tubing, flexible metal conduit, liquid tight flexible conduit, and rigid nonmetallic conduit in sizes ranging from 1/2" to 6", including all associated hardware and fitting, bending, cutting, and threading as applicable; wire, wiring, cabling, power cabling, open wiring, feeder circuits, branch circuits, fixture wiring, and flexible cabling and cords ranging in size from #22 AWG to 750 MCM, and from single conductor to multi-conductor circuits; all switches, outlets, junction boxes, terminal boxes, wire ways, under floor assemblies, bus ways, electrical floor assemblies, and multi-outlet assemblies.

C.5.14.3. The contractor shall repair, maintain, install, and test interior electrical lighting and lighting systems IAW the following:

NEC NFPA-99
NFPA-101

Types of components and systems include: switches and low voltage switching systems; dimmers and dimming systems; photo electric eyes and components; timers; magnetic contactors (lighting contactors); submersible and waterproof fixtures; explosion proof and vapor tight systems; temporary lighting and lighting systems including Christmas lighting and special purpose lighting; and various types of lighting systems including indoor lighting; outdoor lighting, security lighting, and emergency lighting. The contractor shall repair, maintain, install and test building entrance services IAW the following: NEC

NFPA-99
NFPA-101

Types of components include: fused and non-fused service disconnects from 30 amp to 600 amp, and single phase to poly-phase; conduit; raceways; fittings; hardware; wiring; service masts and supports; weather heads; grounds; grounding systems and conductors; ground rods; fuses; circuit breakers; ground fault protection devices to 600 volts; surge arrestors; lighting protection devices; and both overhead and underground service entrance cables including all connections, drip loops, weatherproofing insulation, conduit and fittings.

C.5.14.4. The contractor shall repair, maintain, install, and test electrical distribution and load centers

IAW the following:

NEC
NFPA-99
NFPA-101

Types of components include main service power circuit breakers from 30 amp to 1600 amp, including manual, automated, and ground fault interrupter (GFI) types; load distribution centers, both power and lighting; bus systems; raceways; distribution panels; branch circuits; and load circuit breakers varying in size from 5 amp to 600 amp, single and poly-phase.

C.5.14.5. The contractor shall repair, maintain, install, and test interior electrical transformers and regulators IAW the following:

NEC

Types of components include single and poly-phase transformers; transformers from 600 - 2300 volts; transformers under 600 volts nominal; auto transformers; potential transformers; current transformers; control voltage transformers; multiple secondary output transformers; isolation transformers, and voltage and current regulators. Transformers vary in application from small open units to large pad mounted poly-phase units and are located both indoors and outdoors.

C.5.14.6. The contractor shall repair, maintain, install, and test electrical motors and motor controls IAW the following:

NEC
NFPA-99
NFPA-101

Types of components include single and poly-phase motors from fractional horsepower to 350 horsepower and varying in operational voltages from low voltage direct current to 2400 volts A.C.; continuous and intermittent duty motors; motor feeders; motor disconnects; motor circuit conductors; overloads; fuses; circuit breakers; motor controllers; contactors; coils; automatic door closers, motors, and controls; control circuits; motor control devices such as start/stop stations; pressure switches, gear driven limit switches, limit switches, mercoid switches, and control and power transformers. Motors and motor control centers are located indoors and outdoors. The contractor shall repair, maintain, and install belts and shaft guards, motor pulleys, belts, couplers and couplings and electric motor bearings.

C.5.14.7. The contractor shall repair, maintain, install, and test interior electrical grounds and grounding systems IAW the following:

NEC
NFPA-99
NFPA-101

Types of components include ground rods; grounding conductors; ground clamps; ground wells; ground lanes; and fueling ground points at petroleum oils and lubricants (POLs). The contractor shall perform ground point maintenance on grounds listed in section C.5.14.9.1. through C.5.14.9.4. upon receipt of a valid work document.

C.5.14.8. Recurring Maintenance:

C.5.14.9.1. The contractor shall accomplish ground readings at 12-month intervals at PSCA Launch Pads. The contractor shall assure continuity of all grounding points to a grounding electrode using a voltmeter or equivalent. The resistance measured from the facilities most remote grounding point to each grounding electrode shall be less than 2 ohms. The contractor shall assure that the maximum resistance of the grounding electrode to earth shall be 23

ohms or less. The contractor shall establish a grounding electrode that does not exceed a maximum resistance to ground of 23 ohms IAW the following:

NEC

The contractor shall correct all discrepancies found within 3 working days. The contractor shall prepare a Ground Safety Check Log shown in TE 5.14.1. detailing the locations of ground points, the type of ground point, the reading taken, and noting any discrepancies found and the corrective action performed. The contractor shall deliver the completed Ground Safety Check Log (Form) to the CO or company representative within 5 working days of the completion of the ground point checks.

C.5.14.9.2. Petroleum Oil and Lubricants (POL) Ground Points: The contractor shall perform ground point readings at 12-month intervals, on all POL ground points at each Petroleum location on PSCA. The contractor shall take ground readings from a ground, with a resistance of 23 ohms or less to earth, to the individual points. Readings shall be taken with a ZM-21/V 500 voltmeter or equivalent. The contractor shall correct all discrepancies found within 3 working days. The contractor shall prepare a Ground Safety Check Log (Form) shown in TE 5.14.1. detailing the locations of ground points, the type of ground point, the reading taken, and noting any discrepancies found and the corrective action performed. The contractor shall deliver the completed Ground Safety Check Log to the CO or company representative within 5 working days of the completion of the ground point checks.

C.5.14.9. Elevators and Dumbwaiters Emergency Response only: The contractor shall only perform emergency services on all elevators listed in TE 5.14.2. IAW C.5.14.10.1. A separate contract provides all normal Elevator Maintenance. Any work the contractor shall perform on elevators will be IAW the following:

NEC
NFPA-99
NFPA-101

TE 5.14.2.

C.5.14.10.1. Elevator Emergency Services: The contractor shall provide and perform elevator emergency services to include: providing a qualified repairman (Electrician) to standby in elevator emergency situations including continuous standby when one elevator car is disabled; performing emergency positioning of elevator cars to evacuate personnel or equipment, providing a 15 minute response time to elevator emergency calls during normal working hours and a 1 hour response time to elevator emergency calls during all non-duty hours; providing temporary emergency services to facilitate personnel or equipment movement; and disabling elevator cars or equipment when directed by the CO or company representative. Response time for this service is defined as "at the work site."

C.5.14.10. The contractor shall perform other interior electrical work such as: temporary electrical service in emergencies; emergency lighting systems; circuit and load determination estimate and testing, standby electricians for special events, and escorting un-cleared personnel.

C.5.15. ELECTRICAL/ELECTRONIC CONTROL SYSTEMS:

C.5.15.1. Scope: The contractor shall repair, maintain, install, operate, monitor, and test all the electrical/electronic control systems detailed in the sections below. Work shall involve various types of control systems from highly technical computer-controlled building automation and energy control systems to locally fabricated systems.

C.5.15.1.2. Reports: The contractor shall furnish and make available to the CO or company representative a copy of all checklists and report forms when requested (i.e., daily, weekly, monthly, quarterly, semi-annual, and annual frequencies) for all requirements listed in C.5.15. and its associated technical exhibits.

C.5.15.2. Commercial IDS Systems: The contractor shall install and test commercial IDS systems and associated equipment, normally less radio transmitter/receiver equipment, IAW manufacturer's installation, test, and operations instructions when directed by a valid work document. Should a requirement for radio transmitter/receiver equipment and systems installation, in conjunction with the installation of commercial IDS, occur; it is recommended that the contractor subcontract the radio equipment and systems portion of the installation.

C.5.15.2.1. The contractor shall perform other IDS associated work including coordinating and performing IDS system testing with PSO or using agency personnel, coordinating and performing IDS communications cable repairs with NEC personnel, coordinating IDS system problem resolution with using agency or monitoring personnel, and coordinating with Government planners in development of IDS plans.

C.5.15.3. Fire Alarm Systems:

C.5.15.3.1. Scope: The contractor shall repair, maintain, install, and test the fire alarm systems listed in

C.5.15.3.1.2. through C.5.15.3.2. All contractor work on fire alarm system, subsystems, or components shall be coordinated with the CO or company representative. The contractor shall ensure that repairs, replacements, installations, or modifications to fire alarm systems do not lower the level of protection the installed system presently affords. Critical fire alarm systems are listed in Section C.5.15.3.1.2. All work on fire alarm systems shall be done IAW the following:

- NEC
- EM 385-1-1
- NFC Vol 7
- NFPA-72
- NFPA-99
- NFPA-101
- NICET II
- C.S.A – Codes & Standards Assessment

and the manufacturer's operation and maintenance manuals listed in C.5.15.3.4. Types of systems include remotely monitored systems using polarity reversal signals for readout, and locally monitored systems.

C.5.15.3.1.1. The contractor shall use caution in dealing with fire alarm systems and/or automatic sprinkler systems to prevent activation. The Fire Department shall be notified in all instances where work will be required on these systems. The contractor shall clean up any area and repair, replace, or recharge damaged equipment in cases where activation of a fire alarm system and/or sprinkler system is determined to be caused by the Contractor. The fire alarm systems are denoted on equipment lists in Technical Exhibit (TE) 5.15.1.

C.5.15.3.1.2. The contractor shall repair, maintain, test and service the fire alarm systems listed below IAW Priority listed.

C.5.15.3.2. Remotely Monitored Fire Alarm Systems: The contractor shall repair, maintain, install, and test all fire alarm systems listed in TE 5.15.1. Examples of components and systems include mass notification systems, transmitters, receivers, bells, pull stations, wiring, heat and smoke detectors, lamps, transformers, diodes, circuit boards, transistors, terminals, modules, switches, relays, fan/exhaust fan/ air handler shutdowns, buzzers, limit switches, connections, connectors, batteries, panels, pull boxes, and communications lines and cables as defined in C.5.15.9. through C.5.15.9.4.2. Fire Alarm systems and components operate on voltages from the milli-volt range to 480 volts AC. All remotely monitored systems are monitored at the main Post fire station 24 hours per day, 7 days a week, and 365 days per year.

C.5.15.3.3. Locally Monitored Fire Alarm Systems: The contractor shall repair, maintain, install, and test all fire alarm systems listed in TE 5.15.1., and components of these systems including mass notification systems, panels, relays, pull stations, smoke and heat detectors, wiring, relays, switches, bells, and buzzers of the locally monitored systems which annunciate only in the immediate building or general surrounding areas.

C.5.15.3.3.1 Special Tools and Equipment: The contractor shall provide all specialty tools and equipment to perform the duties and repairs on the fire alarm systems-

C.5.15.3.4. Fire Alarm System Assistance: The contractor shall advise and instruct other Government Agencies on problems in the fire alarm systems areas upon receipt of a valid work document; perform fire alarm testing and fire alarm system communication cable troubleshooting as defined in C.5.15.9.4., provide as built drawings to the DPW on system update or changes made by the contractor, and conduct onsite training for fire alarm customer personnel on new or updated systems.

C.5.15.3.4.1 Certifications: The contractor shall provide personnel who are factory trained/certified as C.S.A (Codes & Standards Assessment) or NICET II (card holder) fire alarm repair technicians for the type of work which they are performing with at least one present always during normal working hours, and MEDDAC will have one C.S.A or NICET II (card holder) factory trained/certified fire alarm technician for the type of work which they are performing. The contractor shall ensure that fire alarm technicians with experience commensurate with the complexity of the fire alarm systems as stated in C.15.3.1 through C.15.3.3. Failure by the contractor to provide adequate fire alarm technicians could result in death and/or severe damage to equipment and buildings.

~~C.5.15.3.5.~~ Fire Alarm Systems Records: The contractor shall complete by the first working day of each week of all work accomplished on fire alarm systems from the previous week (i.e. service orders, recurring maintenance, and/or IJO's). Minimum information acceptable shall include system involved, system status, date work performed, and remarks concerning system status. The contractor shall include all information necessary to determine a systems status, such as: parts on order; inoperable systems, subsystems, or components; or faulty communications lines; and contractor's recommendations for system improvements.

C.5.15.3.5.1. The contractor shall keep line record cards up to date IAW the following:

NFPA-72
NFPA-99

NFPA-101

The Line Record Cards shall be maintained throughout the length of the contract and returned to AAC at the termination of the contract. The contractor shall conduct tests on all fire alarm systems communications cables based upon receipt of valid work documents.

C.5.15.3.6. Emergency Generator Systems: Types of systems include generator sets and associated control systems, automatic transfer switch (ATS), and bypass switches; generator sets and associated control systems with automatic utility synchronization, ATS, and bypass switches; and portable generator sets and associated controls utilizing portable power delivery cables. The contractor shall report all malfunctioning or nonfunctional emergency generator systems to the COR within 1 hour of detection of status. Examples of components include: ATS, bypass switches, generator and load protection devices, generator function controls, amp meters, voltmeters, synchroscopes, fuel pumps, battery chargers, fuses, circuit boards, cable, wiring, terminal boxes, disconnects, circuit breakers, mechanical and electrical interlocks, lamps and lamp holders, push buttons, switches, and conduit. All repairs, modifications, etc. shall be accomplished on RM and shall be given the highest priority possible for the mission it supports. The contractor shall coordinate all work on emergency generator systems, requiring systems disablement in any way, with the using activity's personnel as listed in section C.5.15.5.2.3.

C.5.15.3.6.1. Critical Alternate Power Sources: The contractor shall meet the online time frames and downtime specifications listed below. These specifications will be closely monitored by AAC.

Equipment	Location	Operational Time Frame	Allowed Downtime
Emergency Generators (4ea.)	RCC, MSF, IPF, PPF	Whenever Commercial Power Fails	0% during any demand period
Emergency Generators (4ea.)	Mobile Launch Support	Whenever Commercial Power Fails	0% during any demand period

C.5.15.3.6.2. Reserved.

C.5.15.3.7. Testing and Exercising Emergency Generators: The contractor shall provide emergency generator testing IAW the following:

NFPA-99 NFPA-101

SOP posted within the functional area for each generator system listed in section TE.5.15.4.

Operation and maintenance manuals:

C.5.15.3.7.1. The contractor shall test run all emergency generators under actual connected emergency load, using the automatic start and load assumption cycle. The contractor shall coordinate all emergency generator testing with the personnel of the using agency as listed in TE 5.15.4.

C.5.15.3.7.2. The contractor shall maintain an onsite, hard bound log at each generator site posting the following information after each emergency test, repair or operation: date, time, and duration of test (run time), repairs, load carried (if meter is provided), condition of equipment, and name of operator. The onsite generator log shall be maintained throughout the length of the contract and returned to AAC at contract termination.

C.5.15.3.7.3. Emergency Generator Load Testing: The contractor shall be capable of performing load bank testing of any emergency generator listed in TE 5.15.4. as requested by a valid work document.

C.5.15.3.7.3.1. The contractor shall load test generators upon receipt of a valid work document, generators listed in section C.5.15.5.2.1. Shall be load tested using AAC furnished load bank. Each generator shall be run under full load for four hours to assure that the generator will produce its rated output for the full test duration. The load bank testing shall be conducted IAW the manufacturers manual for the load bank testing units. The contractor shall correct any discrepancies found during load bank testing at the time the test is performed. All load bank testing shall be coordinated with the Contracting Officer or company representative and the using agencies

detailed in TE 5.15.4. 30 days prior to the proposed test date.

C.5.15.3.7.3.2. The contractor shall note the date of the test, test results, and comments on the test in the on-site generator log for each unit tested.

C.5.15.5.4.1. The contractor shall provide portable emergency generator services. The contractor shall use the portable emergency generators listed in Section C.5.15.5.4.1., to provide temporary, emergency electrical supply to selected facilities on short term basis. The contractor shall place the generator set, connect portable power cables to the generator and the load, operate the generator set, and control the generator emergency load by disconnecting selected loads. The contractor shall operate the generator set and control the generator emergency load by disconnecting selected noncritical loads or by making temporary connections to power panels, circuit breakers, service entrances, disconnects or directly to selected loads. The contractor shall ensure that sufficient fuel for the generator is available to ensure uninterrupted electrical supply to the selected loads.

C.5.15.5.4.1. The contractor shall, at end of requirement for portable generators, return the facilities electrical service to the condition which it was designed. The contractor shall disconnect and store the portable cables and report the emergency generator to its designated storage area. The contractor shall repair, service, and ready the generator for the next reuse.

C.5.15.5.5. The contractor shall provide other emergency system related assistance and repairs to all using activities listed in C.5.1.3. (Examples are UPS systems.)

C.5.15.3.8. Water Production Control Systems:Scope: The contractor shall repair, maintain, install, and test, electric and electronic water automation control systems, including all pump motors, contactors, automated valves, controls, relays, wiring, conduit, fittings, and hardware. The automated deep well pumping system includes various pump motors, wells, and boosters, and their associated electric services and contactors; various types of control devices; wiring and cabling; with remote monitoring and control points for each of the two separate but related water production control pumping systems, some of the components of which are used in common, such as the three main reservoirs. The two water production control systems are detailed in sections C.5.15.6.3.1

C.5.15.3.9. The contractor shall perform all work on the water production control systems IAW the following:

NEC
EM 385-1-1
The Manufacturer's Operation and Maintenance Manuals

C.5.15.3.10. Well and Booster Pump Motors and Controls: The contractor shall repair, replace, maintain, install, and test all deep well and booster pump motors and the associated control systems and components listed in section C.5.15.6.3.1. The well motors, booster pump motors, control panels and associated components use voltages from 208 V.A.C. to 2300 V.A.C., both single and 3 phase, and various horsepower rating up to 350 hp.

C.5.15.3.11. Water Automation Control Systems: The contractor shall repair, maintain, install, test, and perform recurring maintenance on all water automation control systems. The contractor shall develop a plan and checklists for recurring maintenance per O&M manuals for all water automation control systems. The plan and checklists shall be submitted NLT 30 days after contract start date to the CO or company representative for approval. The systems consist of separate water production facilities and the associated panels, controls, control devices, and components, including the associated telemetering systems used to monitor reservoir levels and automatically start and stop well and booster pumps to maintain minimum levels.

C.5.15.3.12. Other Well and Pump Systems: The contractor shall repair, maintain, and install all electrical components of other well and water pumping systems listed below. Components include the following: pumps, booster pumps, contactors, controls, wiring, conduit, fittings, and hardware.

C.5.15.4. Sewage Electrical and Electronic Control Systems:

C.5.15.4.1. Scope: The contractor shall repair, maintain, install, test, and perform recurring maintenance on all

electrical and electronic systems at the sewage treatment and pumping locations, to include the associated effluent water pumping systems. The contract shall develop a plan and checklists for recurring maintenance NLT 30 calendar days after contract start date and submit to the CO or company representative for approval. All recurring maintenance work will be scheduled and performed IAW O&M manuals for Wastewater Treatment Utility Systems.

C.5.15.4.2. Sewage Systems: The contractor shall provide the necessary repair and maintenance services to keep the electrical and electronic automation control systems at the sewage treatment and pumping fully operational. Work shall be done IAW the following:

NEC

Manufacturer's operation and maintenance manuals

Operations and Maintenance Manuals for Utility System

Miscellaneous Control Systems:

C.5.8.1.1. Scope: The contractor shall on occasions repair various small control systems located at Fort Huachuca that are important to the Post mission. Some of the miscellaneous control systems listed in sec C.5.15.8.2.1. are critical systems. All work on critical systems shall be handled IAW Priority 1 work. All other systems listed in Section C.5.15.8.2.1. are to be handled IAW Urgent (Priority 2) and Routine (Priority 3) work as applicable to the situation, or as directed by the CO or company representative. Work on all miscellaneous control systems and components shall be done IAW the following:

NEC

SOPs and manufacturer's operations and maintenance manuals NFPA-72

NFPA-99 NFPA-101

C.5.8.1.2. The contractor shall repair, maintain, install, and test the systems and all components listed sec C.5.15.8.2.1. Components include voltage and current regulators, remote control panels, contactors, circuit breakers, disconnects, cable, wiring, switches, relays, capacitors, lamps and lamp holders, fuses, ground wells, ground rods, underground cables, and wiring, remote control devices, clocks, timers, inverters, batteries, battery chargers, motors, wiring harnesses, outlets, cord, and cord caps, wiring devices, annunciators, transformers, power supplies, diodes, resistors, transistors, varistors, integrated circuits, terminals, connectors, connection boxes, conduit of all types, and hardware and fittings.

C.5.15.5. Control Systems Communications Lines:

C.5.15.5.1. Scope: The contractor shall repair, maintain, install, and test all control systems communications lines and cables listed in C.5.15.9.4.1. IAW the following:

NEC

C.5.15.5.2. The contractor shall coordinate all work on control systems communications lines as follows: fire alarm cables through the main fire station dispatcher, IDS cables through the IDS monitor, and EMCS cables through the EMCS monitor. The contractor shall coordinate with the NEC personnel in communications lines troubleshooting and perform basic testing to include connecting and disconnecting alarm systems from communication cables, opening, grounding, and shorting wires at the monitor area or secured area. The contractor shall coordinate all scheduled and unscheduled repairs, maintenance, installation and testing of an extended nature 1 hour or more in duration through the DPW. Examples of the components are overhead and underground wires, wiring and cables, terminal boxes, lighting protection devices, grounds, conduit and fittings, splices, and weather heads.

C.5.15.5.3. The contractor shall test for, determine, and repair faults on all cables listed in C.5.15.9.4.1. using section C.5.15.9.4.2. as a guide.

C.5.15.5.4. The contractor shall test for, determine, and report the faults listed in C.5.15.9.4.2. on all other cables connected to and used by the control systems.

C.5.15.5.4.1. Control System Communications Lines:

C.5.15.9.4.2 Fault Determination Guide:

Check for tip and ring grounds. Measure DC resistance on each side.
Measure loop (round trip) resistance. Compare to resistance on the Line Records Cards for reference. Check lightning arrestors on both ends of circuit. Repair or replace, if bad.
Determine fault from above.

C.5.16. WATER, SEWAGE, AND FUEL

C.5.16.1. Scope: The contractor shall operate, maintain, repair, replace, install, inspect, remove, and modify the water production, treatment, storage, distribution, and collection systems; the sewage collection and treatment systems; treated effluent storage and distribution systems; fuel distribution systems; and to include all associated or related equipment. The contractor shall provide support services in welding; portable latrines; blue staking for underground utilities for water, sewer and fuel distribution systems. The contractor shall perform the types of work listed below through C.5.16.9.2.5. IAW the standards listed in PWS paragraph C.5.16., subparagraphs, and associated Technical Exhibits.

C.5.16.2. Special Requirements:

C.5.16.2.1. The contractor shall adhere to and enforce all applicable regulations, specifications, operating plans and maintenance manuals, technical manuals, working standard operating procedures and measures related to the operation, installation, maintenance, repair, replacement, inspection, removal, and modification of all systems and equipment listed in C.5.16.

The contractor shall perform operations, repair, testing and maintenance of the equipment and systems IAW current technology and industry standards and shall recommend changes in procedures and equipment, as required, in order to comply with changing technology, standards, and regulations.

C.5.16.2.1.1. The contractor shall have one person dedicated exclusively to perform recurring maintenance on reclaimed water distribution equipment, wastewater treatment equipment 8 hours a day, 5 days a week except holiday's IAW C.1.6 for equipment listed in TE.5.16.5 through TE.5.16.8. The contractor shall have one person dedicated exclusively to perform recurring maintenance on potable water distribution equipment system 8 hours a day, 5 days a week except holiday's IAW

C.1.6 for equipment listed in TE.5.16.3 through TE.5.16.4. The contractor shall perform all work to prevent cross connections, contamination, and turbidity IAW Federal, State, and Local applicable regulations. Recurring maintenance is maintenance that is to be performed on a monthly, quarterly, semi-annual, and annual frequency. Hourly, daily, and weekly maintenance checks will be performed by operations personnel.

C.5.16.2.2. The contractor shall complete, file, and/or deliver, as required, all records and reports required within this functional area. The records and reports are listed under the respective required services.

C.5.16.2.3. The contractor when performing operator's maintenance, repairs and recurring maintenance shall use types, grades, and weights of lubricants that are generally acceptable within the trade, to perform all lubrication unless special types, grades, or weights are specified.

C.5.16.2.4. The contractor shall evaluate and install all new equipment IAW manufacturer's specifications and notify the CO or company representative of any deficiencies noted during the inspection.

C.5.16.2.5. The contractor shall use materials, equipment and standard products of manufacturers regularly engaged in the manufacture of the products and which have been in satisfactory industry use for at least 2 years prior to the use on the contract.

C.5.16.2.6. The contractor shall modify all equipment listed in subparagraphs of C.5.16. and associated Technical Exhibits (TE) listed in the PWS upon the receipt of a valid work document. The contractor shall, after completion of the modification, document all changes made to the equipment and systems, by means of written explanation,

mechanical drawings, maps and drawing of component changes. This document shall be attached to existing documents pertaining to the affected equipment or systems, in local libraries. A copy of the changed documentation shall be forwarded to the CO.

C.5.16.2.7. The contractor is encouraged to recommend to the CO or company representative, any modification to the existing equipment and systems that will enhance the operation of the equipment and systems, enhance the services provided by the equipment and systems, reduce the energy consumption of the equipment and systems, or reduce the man hours required to operate or maintain the equipment and systems.

C.5.16.2.8. The contractor shall clean all work areas of disposed equipment or parts and trash and debris generated by work after completion of that work or at the end of the workday.

C.5.16.2.9. The contractor shall be responsible for a total pollution prevention control and abatement.

C.5.16.2.10. The contractor shall provide all pertinent data when required by AAC for the investigation of pollution complaint(s) originating from or associated with any function on any system.

C.5.16.2.11. Scheduled Outages: The contractor shall perform the following for Scheduled Outages: When repairs have to be performed on a system that will require a water outage, and if there is not an emergency situation and time to plan the outage, the contractor shall: Survey and assess the extent of the area affected to include all facilities and notify all affected customers of the type of outage, dates of the outage, the length of time of the outage, and make any special provisions with the customer if reactivation of the system will have any impact on the customers facilities.

C.5.16.2.15.2. The contractor shall provide to the CO, or designated representative, in a letter format all information related to the scheduled outage to include type of outage, scheduled dates, scheduled hours, areas and building numbers, listing of all customers with their concurrence or non-concurrence to the scheduled outage, and any special provisions related to the outage. This letter shall be submitted NLT 15 calendar days prior to the scheduled outage date.

C.5.16.3. Potable Water Distribution System: The contractor shall maintain, repair, replace, install, inspect, remove, and modify the potable water distribution system to provide potable water in adequate quantities and pressures for domestic use, fire protection, wildlife support, recreation, and training purposes. The contractor shall perform the work listed in the PWS.

The potable water distribution system pipe and fittings range in size from 1/2" to 8". Pipe and fitting materials include asbestos cement, cast iron, steel, galvanized steel, bronze, plastic PE (polyvinylchloride), water and abs (plastic, black).

C.5.16.3.1. The contractor shall maintain, repair, replace, install, remove, and modify the water system and components such as fire hydrants, pressure indicating valves, shut-off valves, pressure reducing valves, backflow assemblies, meters, etc. to include various types of piping such as: Asbestos cement, polyethylene (PE), plastic (PVC), steel, concrete reinforced steel, cast iron, and galvanized pipe to include pipe fittings.

C.5.16.3.1.1. The contractor shall perform all work to prevent cross connections, contamination, and turbidity IAW Federal, State, and Local applicable regulations. In the event of a cross connection or contamination, the contractor shall secure and treat the contaminated area IAW:

American Water Works Association Standard C651-92, Standards of Disinfecting Water mains

C.5.16.3.1.2. The contractor shall, when there is a report of unacceptable water quality, shall flush the water lines near that facility until cleared and water tests are negative. The contractor shall maintain a file listing times, locations, and chlorine residual readings for all flushing and make the file available to AAC upon request and shall provide the file to AAC at completion or termination of the contract.

C.5.16.3.1.3. Fire Hydrants: The contractor shall flush water lines, repair leaks, paint, stencil the hydrant number on all fire hydrants and ensure caps/chains are present and secure. Work shall be performed on recurring maintenance. Replacement of fire hydrants will be done on a valid work document IAW the standards listed in:

American Water Works Association Standard C651-92, Standards of Disinfecting Water Mains

C.5.16.3.2. When components of the firefighting support system such as fire hydrants, water valves and post indicating valves are determined to be inoperable, the contractor shall use a tagging device to identify the outage and shall notify AAC of the location and the identifying number of the hydrant or valve NLT 1 hour after the determination has been made. The contractor shall also indicate the problem and the expected length of time the hydrant or valve will be inoperable when making the notification.

C.5.16.3.2.1. The contractor shall ensure when flushing water lines and fire hydrants, that damage to paved and unpaved roads, sidewalks, and improved grounds does not occur.

C.5.16.3.2.2. The contractor shall write in the tagging device: "WARNING (component name) CLOSE/OPEN," date of tagging, telephone number, and name of person installing the tag.

C.5.16.3.2.3. In the event of a water main break the contractor shall repair, disinfect, and perform the necessary microbiological water tests before reinstating the water service IAW:

American Water Works Association Standard C651-92, Standards of Disinfecting Water Mains.

C.5.16.3.2.4. The contractor shall in the event of a water main break notify the CO or designated representative within 1 hour from the discovery of the main break. Information included shall be location, indication of how the break occurred, area affected by the water outage, and the contractor's point of contact at the job site.

C.5.16.4. Water Plant Operations: The contractor shall operate and perform operator's maintenance on the water production, treatment, and storage equipment to include the operation of equipment listed in TE 5.16.3. IAW all applicable Federal, State, and Local codes and regulations.

C.5.16.4.1. The contractor shall develop and submit a comprehensive operations plan to operate PSCA water production, treatment, storage, to include operator's maintenance. The contractor shall submit a copy of the plan to the CO or company representative for approval, not later than 30 calendar days after contract start date and shall submit proposed subsequent changes of the plan for approval, not later than 30 calendar days prior to the proposed effective date of the revision.

C.5.16.4.2. The water operation includes the production, treatment, and storage to satisfy the total demand for domestic use, fire protection, recreation, and other uses.

C.5.16.4.3. The contractor shall operate all water facilities during all emergencies, such as fires and damage to critical water facilities, and equipment.

C.5.16.4.4. The contractor shall operate and perform operator's maintenance 8 hours per day, 5 days per week. In order to prevent contamination of the potable water supply, the contractor shall use personnel to operate the water production systems independent of personnel used to operate waste water treatment systems during the same shift. Similarly, the contractor shall not utilize clothing, tools, and equipment on the water production systems that has been used on the wastewater treatment systems.

C.5.16.4.5. The contractor shall establish and maintain operational records for the water facilities.

C.5.16.4.6. The contractor shall use bound ledger type logbooks and enter in each log book any information that is related to the operation, troubles encountered during operation, the action taken, and any remarks concerning standards or required procedures. The contractor shall enter date and time of entry, and the name of the person making entry.

Logbooks shall be returned to AAC at termination or completion of the contract.

C.5.16.4.7. The contractor shall always stock sufficient level of water treating chemicals, lubricants and repair parts necessary to maintain a continuous operation of potable water systems.

C.5.16.4.8. The contractor shall perform an inventory of all equipment. The contractor shall develop an operator's maintenance and recurring maintenance plans of all inventoried equipment. The contractor shall follow all work listed, procedures, recommendations, and frequencies from the manufacturer's operation and maintenance manuals, technical manuals, and Federal Manuals for this equipment.

C.5.16.5. Sewage Collection and Reclaimed Water Distribution System: The contractor shall repair, replace, install, and maintain the sewage collection system including pipe and manholes, appurtenant structures, and building sewers to points of connection with the building drains.

The sewer collection system pipe and fittings range in size from 2" to 4" in diameter. Pipe and fitting materials include vitreous clay, asbestos cement, plastic (abs), PVC (polyvinylchloride), bituminous fiber, and cast-iron pipe. Tanks and containers range in capacity from 25 gals to 2000 gals.

C.5.16.5.1.1. The contractor shall clear all sewer lines of debris, roots, sand, and other blockages. The contractor shall repair all sewer line breaks, line sags, and lines invaded by roots, to include manholes, clean outs, and appurtenances leading to main or service lines, shall replace unrepairable components, and shall reroute and install lines, clean outs, and manholes, as required, on receipt of a valid work document and IAW:

Uniform Plumbing Code, current edition Wastewater Systems, Chapter 7

C.5.16.5.1.2. The contractor shall coordinate with the CO to obtain the approval of AAC Forester before removing any tree, bush, or any type of decorative vegetation that needs to be removed to facilitate access to an underground sewer line or to remedy a problem related to roots.

C.5.16.5.1.3. The contractor shall, after rodding or cleaning sewer lines, remove all wastes and debris that surrounds the manhole or clean-out area. After debris has been cleaned and removed, the contractor shall spray the area contaminated with raw sewage with a 10% solution of water and liquid household type chlorine (Hypochlorite) to sanitize.

C.5.16.5.1.4. The contractor shall repair septic tanks, cesspools, grease traps, and holding tanks. Components include: Tanks, basins, piping, fittings, leach lines, and other associated equipment and materials. The contractor shall pump out contents of septic tanks, when required, transport and dump waste in any existing collection system manhole that is located no less than two miles from the wastewater treatment plant.

C.5.16.8.3 Water Distribution System: The contractor shall perform inventory of the water distribution system from the utility maps to determine amount of equipment on which to perform recurring maintenance.

C.5.16.8.3.1. Backflow Prevention Assembly Testing and Repair: The contractor shall develop a recurring maintenance plan for the inspection, testing and repair of backflow assemblies post wide. The contractor shall provide professional services and be certified in the labor and have the equipment necessary to properly test, inspect, clean and repair backflow assemblies post wide. In the event the contractor discovers that a backflow assembly needs to be insulated they will request this work on a valid work request. The contractor shall maintain a record of the work performed on backflow assemblies to include size, location – interior/exterior, pass or fail status, date of service, repair, or testing. The contractor shall provide copies to the CO or company representative as stated in TE 1.1 under Deliverables every month of the status of backflow preventers that were serviced, tested or repaired.

C.5.16.8. Support Services:

C.5.16.8.1.1. The contractor shall mark the locations of underground or otherwise detected water, fuel, sewer

and electric lines by staking, painting, or other means, as site conditions warrant. The blue stake markings are valid for 15 working days excluding weekends and holidays, except in the event of weather-related re-markings where markings have been washed away then the contractor shall remark, and blue stake will be valid for 15 working days excluding weekend and holidays from the date of the re-mark.

C.5.16.8.1.2. The contractor shall when providing clearances in a congested area with different underground utilities present, shall pothole the area until all the underground water, gas and sewer lines have been identified.

C.5.16.8.1.3. The contractor shall when utilities cannot be identified from the "As built" drawings or from any other reference, shall pothole the suspected utility until found and it is properly identified.

C.5.16.8.1.4. The contractor shall while providing an underground clearance, the contractor discovers any changes in direction, size, or type of utilities in comparison to the "As-built" drawings, the contractor shall make corrections on the "As-built" drawings and furnish a copy to the CO, or designated representative, to update "As-built" drawings or maps.

C.5.16.8.1.5. The contractor shall complete the underground clearance request within 2 working days after the issue date of the work document or IAW the priority of the work document, whichever is sooner.

C.5.16.9.1.6 The contractor shall in areas where blue staking is questionable to be performed such as grading of parking lots, road shoulders, clean up with back hoes etc. the contractor shall get written approval from the Roads & Grounds QAE prior to such work.

C.5.16.8.2. Portable Latrines: The contractor shall provide portable latrine service to include transportation, placement, service, relocation, and retrieval of the portable latrines on Recurring Maintenance or a valid work document. There are approximately 359 portable latrines total located at various locations throughout the Post area.

C.5.16.8.2.1. The contractor shall develop and submit a comprehensive Recurring Maintenance Plan for portable latrines to repair monthly and replace those which are considered non-serviceable. There are approximately 273 permanent placed portable latrines.

C.5.16.8.2.2. The contractor shall service portable latrines daily, weekly, biweekly, and monthly as required. Work must be done on Recurring Maintenance and consists of pumping out waste; replenishing with clean water; adding chemical deodorizer; sanitizing and washing walls, seats, urinals, and floor area; provide sanitary tissue; and erase or remove graffiti that has been written, painted, or carved on any part of the portable latrine. Any additional portable latrines or cleanings to support government training, civilian activities and as directed by the COR shall be done on a valid work document.

C.5.16.8.2.3. The contractor shall anchor all portable latrines identified on Recurring Maintenance. Anchors prevent latrines from tipping over when strong winds occur.

C.5.16.9.2.4: The contractor shall service permanent latrines on a valid work document. The contractor shall service permanent latrines by pumping out waste, replenishing with clean water, adding chemical deodorizer, sanitizing, and washing walls, seats, urinals and floor area and erase or remove graffiti that has been written, painted or carved on any part of the latrine.

C.5.17. PLUMBING SERVICES

C.5.17.1. Scope: The contractor shall maintain, repair, install, inspect, test, remove, and modify all plumbing equipment for water, sewer, air, petroleum fuel (POL), kitchen fire suppression, and fire sprinkler equipment identified for all buildings listed in

Uniform Plumbing Code
AWWA Manual, M14, Backflow Prevention and Cross Connection Control
CFR 49, 192, Pipeline Safety Regulations

NFPA 13, Automatic Sprinkler Systems Handbook
NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water Based Fire Protection Systems
NFPA 54, National Fuel Gas Code
NFPA 72, National Fire Alarm Code NFPA Fire Protection Handbook
NICET National Institute for Certification in Engineering Technologies

C.5.17.1.1. Critical Facilities: The contractor shall follow the reliability rates listed in C.5.17.1.2. when plumbing work is performed in all critical Facility Engineer facilities:

C.5.17.1.2. The contractor shall ensure that water, vacuum, inert gases, and fire sprinkler systems are available, upon demand, at pressures and flow rates as specified by system design specifications.

C.5.17.2. Special Requirements:

C.5.17.2.1. The contractor shall adhere to and enforce all applicable regulations, specifications, operating and maintenance manuals, technical manuals, work procedures and measures related to the operation, installation, maintenance, repair, replacement, inspection, removal, and modification of all systems and equipment listed in C.5.17.

C.5.17.2.2. PSCA facilities plumbing as built drawings are available upon request.

C.5.17.2.3. The contractor shall perform operations, repair, and maintenance of the equipment and systems IAW current technology and industry standards and shall recommend changes in procedures and equipment, as required, in order to comply with changing technology, standards, and regulations.

C.5.17.2.4. The contractor shall coordinate all work with the person in charge of the facility where the work is to be done, to preclude life threatening situations, hardships, and operational problems at the facility involved.

C.5.17.2.5. The contractor shall complete, file, and/or deliver, as required, all records and reports required within this functional area. The records and reports are listed under the respective required services.

C.5.17.2.6. The contractor shall when performing operator's maintenance, repairs and recurring maintenance shall use types, grades, and weights of lubricants that are generally acceptable within the trade, to perform all lubrication unless special types, grades, or weights are specified.

C.5.17.2.7. The contractor shall evaluate and install all new equipment IAW manufacturer's specifications and notify the CO of any deficiencies noted during the inspection.

C.5.17.2.8. The contractor shall use materials, equipment and standard products of manufacturers regularly engaged in the manufacture of the products and which have been in satisfactory industry use for at least 2 years prior to the use on the contract.

C.5.17.2.9. The contractor shall modify all equipment listed in subparagraphs of C.5.17. and associated Technical Exhibits listed in the PWS upon the receipt of a valid work document. The contractor shall, after completion of the modification, document all changes made to the equipment and systems, by means of written explanation, mechanical drawings, maps and drawing of component changes. This document shall be attached to existing documents pertaining to the affected equipment or systems, in local libraries. A copy of the changed documentation shall be forwarded to the CO.

C.5.17.2.10. The contractor shall recommend to the CO or company representative, any modification to the existing equipment and systems that will enhance the operation of the equipment and systems, enhance the services provided by the equipment and systems, reduce the energy consumption of the equipment and systems, or reduce the man hours required to operate or maintain the equipment and systems.

C.5.17.2.11. The contractor shall clean all work areas of disposed equipment or parts and trash and debris generated by work after completion of that work or at the end of the workday.

C.5.17.2.12. The contractor shall be responsible for a total pollution prevention control and abatement program in the performance of all requirements and services of subparagraphs of C.5.17., and as directed by AAC.

C.5.17.2.12.1. The contractor shall provide all pertinent data when required by AAC for the investigation of pollution complaint(s) originating from or associated with any function on any system listed throughout subparagraphs of C.5.16., to the CO.

C.5.17.2.13. The contractor shall when repairs on a system will require a plumbing related supply outage, and if there is not an emergency situation and time to plan the outage, the contractor shall perform the following: Survey and assess the extent of the area affected and notify all affected customers of the type of outage, dates of the outage, the length of time of the outage, and make any special provisions with the customer if reactivation of the system will have any impact on the customers facilities.

C.5.17.2.13.1. The contractor shall notify all other appropriate contractor's departments for shutdown and start-up of equipment that is affected by the outage.

C.5.17.2.13.2. The contractor shall provide to the CO or designated representative and sent electronically (email) all information related to the scheduled outage to include: type of outage, scheduled dates, scheduled hours, areas and building number, listing of all customers with their concurrence or non-concurrence to the scheduled outage, and any special provisions related to the outage. This letter shall be submitted NLT 15 calendar days prior to the scheduled outage date.

C.5.17.2.14. The contractor shall correct all defects and shall ensure a minimum of equipment downtime when more complex work is required. The contractor shall install all plumbing equipment for physically handicapped persons.

C.5.17.2.15. Fire Sprinkler Systems: The contractor shall notify the CO or company representative prior to starting any work on fire sprinkler systems and upon completion of the work. The contractor shall ensure that the systems are restored to operational status prior to the end of the workday. If not, the contractor shall provide the status of the system at the end of each workday. The work shall be performed by individuals who are in possession of a "Fitters Card" or C.S.A (Codes & Standards Assessment) card.

C.5.17.3. Recurring Maintenance: The contractor shall perform recurring maintenance on plumbing systems and equipment as follows:

C.5.17.3.1. The contractor shall develop and submit a comprehensive recurring maintenance plan and schedule IAW C.5.17. and subparagraphs of the PWS, to perform recurring maintenance on all plumbing systems and equipment listed below. The contractor shall submit a copy of the plan to the Contracting Officer Representative for approval, within 30 calendar days prior to contract full performance date. Subsequent changes of the plan shall be approved by the Contracting Officer Representative.

C.5.17.3.1.1. The contractor shall submit successive schedules for approval 45 days prior to the start of each fiscal year.

C.5.17.3.1.2. The contractor shall establish a recurring maintenance record system within 60 days of start of the contract for all plumbing systems and equipment by using the Utilities Inspection and Service Record and other forms recommended by the equipment manufacturer and IAW

NFPA 13, Standard for the Installation of Sprinkler Systems
NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water Based Fire Protection Systems
NFPA 72, National Fire Alarm and Signaling Code

C.5.17.3.1.3. The contractor shall retain the record system until termination or completion of the contract and shall turn over the record system to AAC as requested.

C.5.17.3.1.4. The contractor shall record results of inspections and recurring maintenance procedures on UISR card. The contractor shall maintain one UISR card for each identified piece of equipment and shall record all procedures performed in the appropriate blocks of the UISR card.

C.5.17.3.1.5. The contractor shall, in performance of the recurring maintenance, adhere to all work listed, procedures, recommendations, and frequencies from the manufacturer's operation and maintenance manuals, technical manuals, and Federal Manuals for all equipment listed in this PWS.

C.5.17.3.1.6. The contractor shall provide a recurring maintenance progress report to the Contracting Officer Representative NLT 5 working days after work completion. The progress report shall include type of equipment worked on, procedures used, type of frequency, building number, status of equipment, craftsman identification, and date.

C.5.17.3.2. **Petroleum, Oils and Lubricants (POL) Systems:** The contractor shall perform recurring maintenance on all fueling stations and equipment for pumping and dispensing of petroleum products at MSF in accordance with:

C.5.17.3.2.1. The contractor shall perform recurring calibration on meters installed in the POL system at 12-month intervals.

C.5.17.3.3. **Fire Sprinkler Systems:** The contractor shall perform recurring maintenance on all components of the fire sprinkler systems contained in the following buildings as listed at TE 5.17.1 Contractor performing this work shall be certified with NICET II certification.

C.5.18 REFRIGERATION, AIR CONDITIONING, COMPRESSED AIR, VACUUM, MECHANICAL VENTILATION, KITCHEN EQUIPMENT, WASHERS AND DRYERS, AND EVAPORATIVE COOLING EQUIPMENT AND SYSTEMS:

C.5.18.1. **Scope:** The contractor shall maintain, repair, remove, install, and modify refrigeration, air conditioning, heat pumps, mechanical ventilation equipment, compressed air, vacuum, mechanical ventilation, kitchen equipment, washers and dryers, cooling towers, evaporative cooling equipment and all associated systems, notwithstanding size, capacity or equipment. Parts. Shall be replaced as needed or when directed by the CO or their representative. The contractor shall start-up and shutdown air conditioning equipment and systems and evaporative cooling equipment and systems seasonally; and shall install and inspect new equipment and systems in the above categories and shall comply with all manufacturer recommendations, and all NEC, ASHRAE, OSHA, EPA, NFPA, National Fuel Gas, CFR 92, CFR 49, ANSI and National Plumbing codes and regulations and standards that are applicable to the specific equipment or systems at each location. Boilers, furnaces, and solar units used in conjunction with air conditioning are covered under PWS paragraph C.5.19.

C.5.18.1.1. **Contractor Response to Work Documents:** The contractor shall be notified telephonically or via email when a requirement comes in that should be accomplished under recurring maintenance. All time shall be put on the appropriate recurring maintenance IJO. The contractor shall develop a log sheet for all urgent and routine service calls received on a daily basis, these service calls are those in which they are not to be considered to

D be emergency work IAW C.5.1.6.3.1. Urgent service calls will be responded to within the guidelines set forth in C.5.1.6.3.2. Routine service calls will be responded to within the guidelines set forth in C.5.1.6.3.3.

D.5.18.1.1. The contractor shall coordinate all work with the person in charge of the facility where the work is to be done to preclude life-threatening situations, loss or damage of product or property, and operational problems at the facility (e.g. medical facilities and cold storage facilities and plants).

C.5.18.1.5 The contractor shall have all technicians, supervisors, foremen, and persons classified as HVAC technicians and appliance technicians shall be certified as a universal technician in the handling of chlorofluorocarbon and halon gases IAW the Clean Air Act (CAA) of 1990 and 40 CFR Part 82 to perform all work involving these gases. The contractor shall ensure that HVAC mechanics with experience commensurate with the complexity of the equipment, as stated in C.1.3.3., perform all work. Refrigeration, air conditioning, compressed air, and vacuum services are utilized within medical facilities in life sustaining procedures; refrigeration services are

utilized in the cold storage facility in the preservation of large dollar value merchandise; mechanical ventilation is used to remove toxic fumes post wide; and compressed air is used to operate fire sprinkler systems. Failure by the contractor to provide adequate maintenance and repair of this equipment could result in death, loss of product, or loss of property. In accordance with EPA regulations, the contractor must fill out a Refrigerant Recovery and Refrigerant Usage Log (sample in Technical Exhibit -TE 5.18.9. for all uses and recovery of all refrigerants, the contractor must also send a copy of this form to the QAE for Air Conditioning and Refrigeration on a weekly basis. The contractor must fill out an Accidental, Unintentional Venting report (sample in TE 5.18.9.) any time a leak is discovered and when the system loses any refrigerant during repairs. The immediate notification to the QAE is required upon a leak or an Accidental, Unintentional Venting. The contractor must also fill out an Accidental, Unintentional Venting form and send it to the HVAC QAE within 72 hours. All leaks must be repaired within 30 days IAW 40 CFR Part 82. The contractor will be responsible for the cost and replacement of all and any refrigerant lost, due to the lack of manufacturer specification's maintenance, or during the repair or maintenance of any given system if contractor is found negligible.

C.5.18.1.5.1 The contractor shall follow the guidelines set in section C.5.4.5.4 for repair, reporting and follow up inspections/leak testing on equipment normally containing 50 pounds or more of refrigerant per circuit. All repair information on circuits containing more than 50 pounds of refrigerant shall be reported on the Accidental or Unintentional Venting Report also, and submitted within the same 72 hour time period. The Refrigeration Recovery and Usage Log sheet shall be submitted to the HVAC QAE within 5 working days of the repairs.

C.5.18.1.6. The contractor shall notify the person in charge of the respective facility when repair of refrigeration equipment or systems and air conditioning, compressed air, and vacuum equipment and systems at all critical facilities (C.5.18.1.2), if the work cannot be completed within one hour.

C.5.18.1.7. The contractor shall accomplish all work IAW manufacturer's specifications and shall comply with all NEC, ASHRAE, OSHA, EPA and NFPA codes and regulations.

C.5.18.1.8. The contractor shall use types, grades, or weights of lubricants that are generally acceptable within the trade to perform all lubrication of equipment unless special types, grades, or weights are specified.

C.5.18.1.9. The contractor shall correct all defects noted during recurring maintenance when the recurring maintenance is performed but shall ensure minimum downtime when more complex work is required. Replacement parts to correct defects shall be requisitioned IAW C.5.12. Within one work day after the need for the part is recognized and the part shall be replaced within one workday after receipt if the equipment is non-operational and its use is required. When repairing or replacing a system that contains refrigerants R-11, R-12, R-13, R-113, R-500, R-502, and R-503, these systems shall be replaced with the alternate refrigerants. The contractor shall monitor systems that will require changing of oils, expansion valves, refrigerant dryers and any other equipment that must be changed out on a refrigerant replacement. Mothballing of appliances, retrofitting and retirement plans must comply with and be fully documented in accordance with the requirements set forth in 40 CFR Part 82, as referenced in C.5.4.5.4.

C.5.18.1.10. The contractor shall store and transport hazardous materials IAW 40 CFR, 49 CFR, and 29 CFR. All throwaway cylinders must be accompanied with a certification letter stating that all the refrigerant has been recovered or recycled IAW 40 CFR Part 82.

C.5.18.1.11. The contractor shall clean work areas of all trash and dirt generated by the work after completion of the work or at the end of the workday, if any trash, debris, old materials and/or parts are discovered the contractor shall dispose of the items in a timely manner.

C.5.18.2.1.1. The contractor shall comply with annual recurring maintenance procedures IAW AR's, and manufacturer recommendations and shall comply with all ASME, NEC, ASHRAE, OSHA, EPA, and NFPA codes and regulations, and contractor's maintenance checklists and recurring maintenance plans that are applicable to the specific equipment or systems at each location listed in TE 5.18.1. The contractor shall complete NLT April

1st of each year.

C.5.18.2.1.1.1 Air Compressor Inspections The contractor shall assist in the inspection of air compressor receiver vessels. Inspections shall be performed every 3 years by the Federal Boiler Inspector as stated in ANSI/NBIC section 2.3.6.2. Inspector shall be accompanied by an air compressor mechanic who is familiar with the post and can assist in all matters of the inspection. The air compressor mechanics assistance with the inspector shall be performed on Recurring Maintenance.

C.5.18.2.1.2. The contractor shall perform annual recurring maintenance on all air conditioning equipment and systems and all evaporative cooling equipment and systems following manufacturer recommendations, all ASME, NEC, ASHRAE, OSHA, EPA and NFPA codes and regulations, and the contractor's PM checklist and recurring maintenance plan that are applicable to the specific equipment or system.

C.5.18.2.1.2.1 Specialty Tools and Equipment: The contractor shall provide all specialty tools and equipment to perform the duties, repairs, maintenance, testing and troubleshooting on the equipment and systems listed in C.5.18. Laptop computers (2 ea.) shall be utilized in providing and assisting the HVAC mechanic in adjusting, testing, troubleshooting, diagnosing and repairs in the equipment and types of systems listed in section C.5.18. The laptops shall be maintained and continuously updated on a regular basis to assist in providing the information as needed for the types of equipment and systems which they will be used for.

C.5.18.2.1.3. Maintenance (Seasonal): The contractor shall perform seasonal maintenance on all Cooling Equipment and system associated cooling equipment. The contractor shall correct all defects when maintenance is performed but shall ensure minimum equipment down time when more complex work is required. Replacement parts to correct defects shall be requisitioned IAW C.5.12. Within one workday after the need for the part is recognized, and the part shall be replaced within one workday after receipt.

D.5.18.1.2. Unscheduled Repair: The contractor shall perform unscheduled repair on refrigeration, air conditioning, compressed air, vacuum, mechanical ventilation, kitchen equipment, and evaporative cooling equipment and systems. The contractor shall inspect, test, clean, adjust, calibrate, repair, or replace all parts, or components, necessary to restore the equipment, or system, to a condition to perform the function for which it was designed, within the priority time frames established in paragraph C.5.1.6.3. Through C.5.1.6.3.5. After completion of the unscheduled repair, the contractor shall submit documentation for any modifications that may have been made to the affected equipment or systems by means of written explanation, circuit and wiring diagrams, and drawings of structural or component changes. This document shall be attached to existing documents pertaining to the affected equipment or systems. A copy of the change documentation shall also be forwarded to the CO.

D.5.18.1.2.1 Scheduled Outages: The contractor shall when repairs have to be performed on an Air Conditioning/Chiller/Heat Pump system or their components that will require an outage, if there is not an emergency situation and there is time to plan the outage, the contractor shall perform the following: Survey and assess the extent of the area affected to include all facilities and notify all affected customers of the outage, building numbers, dates of the outage, the length of time of the outage, and make any special provisions with the customers (portable AC units if available) and the concurrence or non-concurrence of customers who are affected. Submit to the CO or designated representative in a letter format all information related to the scheduled outage and submit NLT 7 calendar days prior to the scheduled outage date.

D.5.18.1.3. New Equipment Installation and Inspection: The contractor shall install new refrigeration, air conditioning, compressed air, vacuum, mechanical ventilation, kitchen equipment, and evaporative cooling equipment and systems; shall install, inspect and evaluate new equipment for compliance with all manufacturer's specifications, ASME, NEC, ASHRAE, OSHA, EPA and NFPA codes and regulations. The contractor shall, after completion of the installation and modification document the changes made to the equipment and systems by means of written explanation, circuit and wiring diagrams, and drawings of structural or component changes. This document shall be attached to existing documents pertaining to the affected equipment or systems. A copy of the change documentation shall also be forwarded to the CO. The contractor shall notify the CO of all deficiencies noted during the inspection and shall furnish a copy of the equipment installed at each facility. **All new**

equipment which is installed by the contractor or the contractor's sub-contractor shall be reported to the CO in writing within 5 working days from the completion date. Type of equipment installed, facility number, model number, serial number, manufacturer, size, quantity, horsepower, voltage, amps and phase shall be noted so corrections can be performed to the PWS/TE manuals by the CO.

D.5.18.1.4. Equipment Modifications: The contractor shall modify refrigeration, air conditioning, compressed air, vacuum, mechanical ventilation, kitchen and evaporative cooling equipment and systems. The contractor shall evaluate the modification of the equipment for compliance with all manufacturer's specifications, ASME, NEC, ASHRAE, OSHA, EPA and NFPA codes and regulations. The contractor shall notify the CO of deficiencies noted during the repair or inspection and shall, after completion of the modification, document the changes made to the equipment and systems by means of written explanation, circuit and wiring diagrams, and drawings of structural or component changes.

D.5.18.1.5. Equipment and System Removal: The contractor shall remove air conditioning, refrigeration, compressed air, vacuum, mechanical ventilation, kitchen equipment, and evaporative cooling equipment and system components and shall comply with all manufacturer's specifications, ASME, NEC, ASHRAE, OSHA, EPA and NFPA codes and regulations. The contractor shall notify the CO of all deficiencies noted during the inspection and shall furnish a list of the equipment and system removals at each facility. The contractor shall, after completion of the modification and removal, document the changes made to the equipment and systems by means of written explanation, circuit and wiring diagrams, and drawings of structural or component changes. This document shall be attached to existing documents pertaining to the affected equipment or systems. A copy of the change documentation shall also be forwarded to the CO. **All equipment which is removed by the contractor or the contractor's sub-contractors shall be reported to the CO in writing within 5 working days from the completion date. Type of equipment removed, facility number, model number, serial number, manufacturer, size, quantity, horsepower, voltage, amps, and phase shall be noted so corrections can be performed to the PWS/TE manuals by the CO.**

C.5.19. COMFORT HEATING, INDUSTRIAL STEAM, DOMESTIC HOT WATER, AND SOFT WATER:

C.5.19.1. Scope: The contractor shall maintain, repair, install, and inspect, remove, and modify central heating equipment and systems, industrial steam equipment and systems, package and unit heaters, solar equipment and systems; domestic hot water heaters; and water softeners. The contractor shall comply with all manufacturer recommendations, and all ASME, NEC, ASHRAE, OSHA, EPA, NFPA, National Fuel Gas, CFR 92, CFR 49, ANSI, National Plumbing codes, regulations and standards that are applicable to the specific equipment or systems at each location.

C.5.19.1.1. Contractor Response to Work Documents: The contractor shall be notified telephonically or via email when a requirement comes in that should be accomplished under recurring maintenance. All time shall be put on the appropriate recurring maintenance IJO. The contractor shall develop a log sheet for all routine service calls received on a daily basis. These service calls are those in which they are not to be emergency work IAW C.5.1.6.3.1. Urgent service calls will be responded to within the guidelines set forth in C.5.1.6.3.2. Routine service calls will be responded to within the guidelines set forth in C.5.1.6.3.3.

C.5.19.1.1.1. Heated Pressure Vessels: The contractor shall have all supervisors, operators, mechanics, and personnel performing the operations, repair, maintenance, modification, and installation work on heated pressure vessels, i.e., high and low pressure boilers, (industrial domestic hot water heaters (150,000 Btu and above)), and other heated pressure vessels, shall have journeyman level experience in the class of work for which employed and shall be certified as a Boiler Operator/Technician to the National Institute for the Uniform Licensing of Power Engineers (NIULPE) 4th class certification level as a minimum.

C.5.19.1.1.2. All other C.5.19. Functional Area Work: The contractor shall ensure that operators and mechanics, IAW C.5.19.1.6.1., with experience commensurate with the complexity of the equipment as stated in C.1.3.3. perform all work.

C.5.19.1.1.2.1. When repairs or alterations to boilers and pressure vessels or repairs are within pressure vessels and boilers then the proper boundaries are required. The contractor shall possess a valid "R" stamp

certification IAW the National Board Inspection Code (NBIC) and ASME codes and regulations. The contractor must have qualified welding procedure specifications (WPS), procedure qualification record(s) (PQR) and welding procedure qualifications (WPQ's), all welders will be qualified to those procedures to make all welded repairs. The contractor shall furnish a material data list with a step-by-step inspection checklist of repair or alteration work which will be signed by the AI, owner and contractor quality control. A hydrostatic test form will be supplied by the contractor with type gauge (s) used, date gauge (s) were last tested and calibrated, to what pressure hydrostatic test was performed and time frame hydrostatic test was held, this form will be signed by the AI, owner, and contractor quality control. The contractor must follow all ASME and NBIC codes for welding of boilers and pressure vessels and the boundaries of the pressure vessel and boiler proper. At the time of the repair or alteration the contractor must have an authorized inspector (AI) present during all work performed. The contractor will correct any deficiency found by the AI at the time of the inspection. The contractor will follow any request from the AI during the inspection, within the guidelines of the ASME and NBIC codes. All inspection reports will be forwarded to the contract officer representative. A detail drawing will be forwarded to the contract officer representative of all repairs or alterations to boilers and pressure vessels, or within the boundaries of the pressure vessel and boiler proper, along with the warranty period for the work accomplished.

C.5.19.1.6.1.2.1.1. The contractor shall ensure all subcontractors performing repairs or alterations to boilers and pressure vessels, are within the boundaries of the pressure vessel and boilers. The contractor must ensure the subcontractor performing the repairs or alterations comply with the requirements stated in C.5.19.1.6.2.1. An Authorized Inspector (AI) shall be hired separately to inspect all work performed by the subcontractor. All inspection reports will be forwarded to the contract officer representative. The contractor will follow any request from the AI during the inspection, within the guidelines of the ASME and NBIC codes. A detailed drawing will be forwarded to the CO of all repairs or alterations to boilers and pressure vessels, or within the boundaries of the pressure vessel and boiler proper, along with the warranty period for the work accomplished.

C.5.19.1.2. The contractor shall perform recurring maintenance on all heating equipment located on Fort Huachuca. The contractor shall develop a recurring maintenance plan for all equipment listed in TE 5.19.2. through TE 5.19.8. that is located at each facility on Fort Huachuca. The contractor shall develop the recurring maintenance plan with the indicated frequencies listed throughout C.5.19 and TE 5.19. The contractor shall, in this plan, describe all work that is to be performed within each frequency. The contractor shall state in this plan during which month quarterly, semi-annual, and annual recurring maintenance is to be performed. The contractor shall develop a recurring maintenance checklist for all equipment listed in TE 5.19.2. through TE 5.19.8 located at each facility. A checklist will also be developed for all system supporting heating equipment, the checklist shall at minimum, indicate IJO number and phase, IJO work description, frequency, work to be performed during each frequency, and facility number. The plan shall be forwarded to the KO for approval NLT 30 calendar days after contract start date. The contractor shall update the plan NLT 45

calendar days prior to the start of each fiscal year. The contractor shall complete and file all logbooks and forms listed in C.5.19. and its TE's and shall retain these completed logbooks and forms until the termination or completion of the contract and shall turn over these completed logbooks and forms to the CO upon termination or completion of the contract. Samples of required forms are contained in TE 5.19.5. The contractor shall develop a maintenance checklist for each piece of equipment with the minimum frequencies indicated in paragraph C.5.19. and TE 5.19., it shall be forwarded to the CO for approval prior to use. The contractor shall furnish to the CO a copy of all completed recurring maintenance checklists that have been performed, IAW contractor's recurring maintenance plan, i.e., daily, weekly, monthly, quarterly, semi-annual, and annuals. The checklists will be provided to the CO within 5 working days after the work was performed.

C.5.19.1.2.1. The contractor shall use bound ledger type logbooks and enter in each log book as a minimum: date and time of entry, name of person making the entry, information such as trouble encountered, work performed, and any remarks and any corrective action taken. The contractor shall maintain a logbook on all equipment and facilities contained in C.5.19. and its associated TEs.

C.5.19.1.2.2. The contractor shall complete and file the following forms on equipment located at the following buildings and at the frequency indicated IAW the requirements contained in section C.5.19. and its associated TEs.

C.5.19.1.3. The contractor shall accomplish all work and shall comply with manufacturer's recommendations, and all, NEC, ASHRAE, OSHA, NFPA, CFR 92, ANSI and National Plumbing codes and regulations and standards that are applicable to the specific equipment or system at each location.

C.5.19.1.4. The contractor shall ensure that, upon the contractor's departure from the work site, all entrances to electrical boxes and services or mechanical areas are secured.

C.5.19.1.5. The contractor shall clean work areas of all trash and dirt generated by work after completion of that work or at the end of the workday.

C.5.9.1.11. The contractor shall use types, grades, and weights of lubricants that are generally acceptable within the trade to perform all lubrication unless special types, grades, or weights are specified.

C.5.19.1.12. Recurring Maintenance: The contractor shall perform recurring maintenance on all equipment at each location. The contractor shall develop a recurring maintenance plan for all equipment. The contractor shall develop the recurring maintenance plan with the indicated frequencies listed throughout C.5.19. The contractor shall, in this plan describe all work that is to be performed within each frequency. The contractor shall state in this plan during which month quarterly, semi-annual, and annual recurring maintenance is to be performed. The contractor shall develop a recurring maintenance checklist for all equipment listed in TE 5.19.2 – TE 5.19.8. located at each facility. A checklist will also be developed for all system supporting heating equipment, the checklist shall at minimum, indicate IJO number and phase, IJO work description, frequency, work to be performed during each frequency, and facility number. The plan shall be forwarded to the CO for approval NLT 30 calendar days after contract start date. The contractor shall update the plan NLT 45 calendar days prior to the start of each fiscal year. The contractor shall correct all defects found during recurring maintenance on the recurring maintenance IJO. Service orders will only be issued for Priority 1 work. Response to service order shall be charged on service order. Work shall be continued on recurring maintenance.

The contractor shall develop a log sheet for all routine and urgent service calls received daily. These service calls are those in which they are not to be emergency work IAW C.5.1.6.3.1. If an item is listed in TE 5.19.2 through TE 5.19.8. at any location at PSCA, all work will be performed on recurring maintenance. The frequency of recurring maintenance shall be performed at the following frequencies on the listed equipment, Boilers IAW boiler checklists located in TE 5.19.5. Semiannual and annual.

Humidification systems, monthly, semiannual, and annual. All controls for heating equipment electric or pneumatic to include thermostats, sensors, EMCS systems and gauges, monthly, quarterly, semiannually, and annually. Water softeners IAW C.5.19.3.4. Air Distribution systems, all types of air handling equipment, monthly, quarterly, semi-annually and annually, filters in all air handling equipment to include fan coil units that have a filtering system shall be changed on a 60 day minimum cycle a 30 % to 40 % efficiency pleated air filter shall be used, fan coil units and annually, all air handling equipment to include fan coils and reheat coil units shall have every coil that is contained in the equipment cleaned with a cleaning solution annually, a microbiocide shall be applied to coils after the coil has been cleaned. Condensate closed loop and domestic hot water circulating and any other types of pumps and motors, monthly, quarterly, semiannually, and annually. Industrial domestic hot water heaters (BTU rating of greater than 100,000) will fall into the same frequencies as the steam and hot water boilers, household type domestic hot water heaters, annual, domestic hot water circulating systems and storage tanks monthly, quarterly, semiannually and annually.

Storage tanks will require pressure vessel inspection IAW the ANSI/NBIC and C.5.19.1.6.2.1. The contractor shall have all works accomplished IAW manufacturer recommendations, and shall comply with all NEC, ASHRAE, OSHA, EPA and NFPA, ASME, CFR 49, CFR 92, ANSI and National Plumbing codes and regulations and standards and C.5.19.9. that is applicable to the specific equipment or systems at each location but shall ensure minimum equipment downtime when more complex work is required. Replacement parts to correct defects shall be requisitioned IAW C.5.12. within one workday after the need for the part is recognized and the part shall be replaced within one workday after receipt if the equipment is non-operational and its use is required.

C.5.19.1.12.1 Specialty Tools and Equipment: The contractor shall provide all specialty tools and equipment to

perform the duties, repairs, testing, maintenance and troubleshooting on the equipment and systems listed in C.5.19.

C.5.19.1.13. Air Quality: The contractor shall follow all, all EPA and ASHRAE guidelines and recommendations to maintain indoor air quality. The contractor shall ensure that all system components are in proper working order at all times, if an indoor air quality complaint is encountered the contractor must insure that all components are in working order, the contractor shall check all filters, heating and cooling coils, exhaust systems, motors, belts, dampers, valves, actuators, controls, plenums, ductwork, drain pans, diffusers and follow the checklists located in T-5-18-9-3 through T-5-18-9-8(same forms are used in C.5.18 and C.5.19). If an indoor air quality problem cannot be resolved the industrial hygienist shall be notified at Raymond W. Bliss Clinic.

C.5.19.2. Operations: The contractor shall operate central heating plants and air conditioning plants, hot water heaters, and water softeners and perform recurring maintenance on all equipment and associated equipment.

C.6. APPLICABLE DOCUMENTS: AAC will furnish, or make available for contractor use, documents described below. All referenced Federal laws, codes, directives and instructions and related material in force at time of solicitation, unless coded otherwise, shall be considered mandatory as applicable to the service or function to be performed. All other publications are applicable as coded.

C.6.1. GENERAL: The contractor shall adhere to those documents coded mandatory. Specific paragraphs will be referenced in instances where only a portion of the document is mandatory. Supplements or amendments to mandatory publications shall be effective upon receipt by the Contractor.