

APPENDIX C

(INDUSTRIAL SAFETY AND HEALTH REQUIREMENTS)

PROJECT DESCRIPTION FOR, RPR/RENOV

COMMAND SECTION, WHSE SUP EQUIP

DEP, B/385

PR#: UHHZ090556

Date: 7 June 2010

PART I

INSTRUCTIONS

The contractor Safety and Health Plan shall address in detail the items listed in Part II through Part IV as applicable. Repeating the referenced standard without addressing the company's specific processes or procedures will not suffice. If task specific procedures are incorporated into a company local document, those procedures must be attached to the submitted Safety and Health Plan. Referencing the company's local procedure/document in the Safety and Health Plan is not adequate. If the company's local procedure/document is not attached; the submitted Safety Plan will be returned NOT ACCEPTED.

PART II

- 1. ENVIRONMENTAL, SAFETY, AND OCCUPATIONAL HEALTH (ESOH):** The contractor is solely responsible for compliance with all federal, state and local laws, the Occupational, Safety and Health Act (OSHA) (Public Law 91-596) and the resulting standards, **OSHA Standards 29 CFR 1910 and 1926**, as applicable, and the protection of their employees. Additionally, the contractor is responsible for the safety and health of all subcontractor employees.
- 2. VOLUNTARY PROTECTION PROGRAMS (VPP):** The Air Force is part of the OSHA VPP. All contractors are required to familiarize themselves with the requirements of VPP. Information on VPP can be accessed at <http://www.osha.gov>. The intent of the Air Force Safety Program is to prevent injuries and to communicate our safety expectations with potential offerors as well as those contractors awarded a government contract. The Air Force's interest is to protect personnel working in or around contractor operations, and to protect Air Force equipment/property.
- 3. CONTRACTOR EMPLOYEES:** Compliance with OSHA and other applicable laws and regulations for the protection of contractor employees is exclusively the obligation of the contractor. **Note:** Air Force Occupational Safety and Health Standards (AFOSH STD) are annotated because many of the Air Force Standards exceed the OSHA standard criteria. If a conflict is noted, the most stringent requirement takes precedence. The government shall assume no liability or responsibility for the contractor's compliance or non-compliance with such requirements. The contractor shall furnish to each of his/her employees a place of employment, which is free from recognized hazards. The contractor shall brief his/her employees on the safety requirements of this contract and on hazards associated with prescribed tasks. The contractor is responsible for compliance with OSHA Public Law and the resultant standards identified within. In addition, the contractor is required to flow down the safety requirements/specification to all subcontractors. This applies to Federal Acquisition Regulation (FAR) 12 commercial acquisitions as well. This contract shall in no way require persons to work in surroundings or under working conditions which are unsafe or dangerous to their health. The contractor must coordinate and perform work so as not to impact the safety of government employees or cause damage to government property. This requires providing personnel with protective equipment and associated safety equipment as may be necessary. The contractor must also protect personnel from hazards generated by the work. If the contractor employs

BILINGUAL speaking employees, they must post bilingual signs and have written procedures for specific tasks in applicable languages.

4. INSPECTIONS: Air Force Environmental, Safety, Occupational Health and Fire protection officials or responsible Quality Assurance Evaluator (QAE) may periodically enter a contractor's workplace to verify working conditions of Air Force personnel. If an Air Force employee observes improper procedures or unsafe conditions which place Air Force personnel or equipment/facilities in jeopardy, the contractor will remove personnel and/or equipment from the unsafe condition and immediately notify the Contracting Officer and the Installation Safety Office. Department of Labor, **OSHA** inspectors are authorized right of entry to inspect any place of employment operated by an Air Force contractor. They are for the most part, "NO NOTICE" inspections. NOTE: Notify the Installation Safety Office at (478)-926-6271 if an OSHA inspector visits your site unescorted by an Air Force Safety Technician. Noncompliance with safety requirements can result in work stoppage, inexcusable delays, and/or costly fines issued by the DOL. The government shall assume no liability or responsibility for the contractor's compliance or non-compliance with such requirements. Fines and additional costs for violations levied against the contractor as a result of OSHA findings, and/or installation safety, fire, health or environmental are the sole responsibility of the contractor and shall not be passed through to the Government.

5. MISHAP NOTIFICATION: The contractor shall notify the Installation Safety Office telephonically at (478)-926-6271 during duty hours and (478)-327-2612 after hours, within four (4) hour after initial notification of all mishaps or incidents for damage to DoD property (material plus labor) entrusted by this contract and employee injuries as a result of the contract operation. A follow-up (written or e-mail) of this mishap/incident notification shall be sent within three calendar days to the Government Representative, the Procurement Contracting Officer (PCO) or the Administrative Contracting Officer (ACO) (with a copy to program manager), who will forward it to the Installation Safety Office. The information that is not available at the time of the initial notification shall be provided within 20 calendar days after the mishap. Mishap notification shall contain, as a minimum, the following information:

- a. Contract, Contract Number, Name and Title of Person(s) Reporting
- b. Date, Time and exact location of accident/incident
- c. Brief Narrative of accident/incident (Events leading to accident/incident)
- d. Cause of accident/incident, if known
- e. Estimated cost of accident/incident (material and labor to repair/replace)
- f. Impound Authority Name and Phone Number (as applicable)
- g. Nomenclature of equipment and personnel involved in accident/incident
- h. Corrective actions (taken or proposed)
- i. Other pertinent information

Note: If requested by Government Personnel (PCO/ACO), the contractor shall immediately secure the mishap scene/damaged property and impound pertinent maintenance and training records, until released by the investigating safety office. If the government investigates the

mishap, the contractor and the subcontractors shall cooperate fully and assist the government personnel until the investigation is finalized and closed out.

*A **CLASS A** mishap is: A fatality or property damage in excess of 2 million dollars

*A **CLASS B** mishap is: An injury resulting in permanent or partial disability or property damage in excess of 500,000 dollars

*A **CLASS C** mishap is: An injury or occupational illness resulting in lost workdays or property damage in excess of 50,000 dollars up to 499,999 dollars.

*A **CLASS D** mishap is: An injury or occupational illness resulting in restricted days, transfer days, or property damage resulting in 49,999 dollars or less.

* These numbers are subject to change.

6. IMPOUNDMENT PROCEDURES: The contractor shall establish written impoundment procedures, as part of their Safety and Health Plan. Impound data must be included in the Mishap Notification Procedures as applicable. As a minimum, the procedures must address:

- a. Appointment of Impound Authority in writing (copy faxed to QAP and Safety Office)
- b. Impound Authority e-mail address and phone numbers
- c. Specific instructions (cordon, facility locked facility, etc.) to secure the site or government asset, to prevent tampering with the aircraft, site or government assets
- d. Specific instructions or measures to ensure only authorized personnel directly involved in management, SAFING, troubleshooting, or repair of aircraft or equipment gain access to the impound site
- e. Additional guidance is located within AFI 21-101, AFMC Supplement 1

7. CONTRACTOR SAFETY AND HEALTH PROGRAM. The contractor shall establish and maintain an acceptable safety and health program.

a. **Contractor Safety and Health Manager.** As part of the Contractor Safety and Health Program, the contractor shall assign in their plan, by name and phone number, a person who will be the primary point of contact for safety and health issues for the on-site operation.

b. **Contractor's Safety and Health Plan.** Contractor shall prepare a safety and health plan in accordance with **PART I, PART II, and PART III**; incorporating the listed elements above, and the flagged items below **in PART II and PART III of this Appendix**, prior to award. The contractor shall ensure that each element identified below is adequately addressed in detail in the safety and health plan. The plan must be accepted by the government prior to work commencing and will be incorporated into the awarded contract. Should a master safety and health plan remain on file with the Installation Safety Office; the contractor must ensure that it is current, updated, and includes all elements below. An addendum to the plan must include the processes noted below:

(1) **Changes to the Plan.** If, during the performance of this contract, changes to

the contractor's Safety and Health Plan are required, the contractor shall submit a revised Safety and Health Plan to the following Contracting Monitor: 406 SCMS/GUMA, DSN 497-6602; Comm.: (478) 327-6602. The same process of review and negotiation (if applicable) involved in the original submission applies to any revision submitted after contract award. The accepted revised Safety and Health Plan shall then be incorporated by contract modification as an attachment or by reference.

(2) **Tracking Rates.** The Contractor's Safety and Health Plan shall identify how their Total Case Incident Rate (TCIR) & Days Away, Restricted and/or Transferred (DART) rates, or comparable insurance rates or compensation injury rates will be tracked, and the corrective measures to be used if these rates begin to decline. The contractor must also describe the processes and procedures to be used to track their compliance with their Safety and Health Plan and how they will correct any deviations from the plan, when and if identified.

PART III

The following checked items are required elements for performance of this contract. The contractor's safety and health plan **shall** address how compliance with these requirements will be ensured. The safety plan **shall** clearly define company procedures on specific tasks/processes, personnel qualifications, how facilities comply with fire requirements to include the electrical wiring and fire protection systems installed (i.e., fire suppression, fire detection, fire extinguishers, firewall ratings, etc) required equipment used to accomplish tasks and other necessary requirements to fulfill the checked items for the protection of government personnel and property. The contractor's safety and health plan **shall** meet, but may exceed the referenced standards. The contractor **must** ensure AF Civil Engineering Support Agency (AFCESA) Engineering Technical Letters (ETL) are incorporated into their safety and health plan as applicable.

Note to Requirements Generators: The following checklist will be used by the requirements generator to determine what safety requirements apply to the contract. These items apply to all contractor and contract operations regardless of any contrary text made in the leading purpose statement of each cited reference. If any of the following items pertain to work being accomplished as described by the contract or apply to the contractors' use to accomplish the work required in the technical documents; the item shall be marked and the contractor will develop their Safety Plan based on those requirements. These requirements must be accompanied by the technical documents when submitting to the reviewing safety office. Remove this note prior to submission to the reviewing safety office.

MOTOR VEHICLES:

Note: Installation Commanders of all DOD installations in the United States and over which the United States has exclusive or concurrent legislative jurisdiction are delegated the authority to establish additional vehicular and pedestrian traffic rules and regulations for their installations. All persons on a military installation shall comply with locally established vehicular and

pedestrian traffic rules and regulations. A person found guilty of violating, on a military installation, any State vehicular or pedestrian traffic law or local DoD 5525.4, paragraph 3 – 4: Pursuant to the authority established in Enclosure 1, installation vehicular or pedestrian traffic rule or regulation made applicable to the installation under the provisions of this directive is subject to a fine of not more than \$50 or imprisonment for not more than 30 days, or both, for each violation (40 U.S.C., Section 318c (reference d)).

a. Yes No, does not apply to this contract

Note: MANDATORY for on installation services.

a. PEDESTRIAN CROSSWALKS: All contractor personnel are required to use the closest crosswalk, or traffic controlled intersection when crossing the road. Pedestrians must look both ways to ensure the coast is clear before stepping out into the crosswalk. Pedestrians DO NOT have the right of way unless they are already in the crosswalk. Contractor vehicle operators have the same responsibilities as pedestrians, to share the road and mutually observe and yield to pedestrians.

b. Yes No, does not apply to this contract

b. MOTOR VEHICLES: Contractor shall comply with the standards in: DoD Directive 5525.4, *Enforcement of State Traffic Laws on DoD Installations*", Nov 2, 1981, para 3-4; DODI 6055.4, *DoD Traffic Safety Program*, 20 Jul 99; AFI 91-207, *USAF Traffic Safety Program*, 22 May 07; and AFI 91-207 AFMC SUP1, *The US Air Force Traffic Safety Program*, 1 Oct 07. Each applies to all persons at any time on an Air Force Installation and includes all leased, owned, or privatized property including housing areas. In addition: AFI 13-213, *Airfield Management*, 29 Jan 08, paras 1.3.6 and 4.4.2.1 and RAFBI 13-206, para 3.5 and Chap 7, *Airfield Operations and Flightline Driving*) guidance applies to all contractors, sub-contractors, vendors, commercial delivery companies, and all other private business vehicles who operate anywhere on xxxx Air Force Base, including the airfield (to include the industrial areas and any buildings or hangars located upon the airfield) in support of their mission.

c. Yes No, does not apply to this contract

c. FOREIGN OBJECT DAMAGE (FOD) Awareness, Prevention and Responsibilities:

Contractor shall comply with the standards in: AFI 21-101 AFMC SUP 1, Aircraft and Equipment Maintenance Management, 14 Dec 07, paragraphs 14.19 - 14.19.10.1.13; National Aerospace Standard (NAS) 412, Foreign Object Damage/Foreign Object Debris (FOD) Prevention Program, Oct 97; AFOSH STD 91-100, Flightline Vehicle Operations, 1 May 98, Chap 6; and XXAFBI 13-206, Control and Operation of Vehicles on Flightline and Industrial

Area/s, para 3.5 and Chap 7, for _____ (insert local base instructions for flightline vehicle operations). The FOD program must be integrated into the day-to-day operations to reduce/eliminate FOD incidents. Programs will include covering waste dumpsters, waste hauling trucks, barriers in place to stop migrating FOD from dirt and gravel piles, and end of shift or daily clean-up. The contractor will brief their personnel at least weekly on any FOD requirements. All contractors, subcontractors performing maintenance in a FOD-potential area will receive and have documented initial FOD Awareness and Prevention training. For **AFMC organizations**, Course number **MHPMAS00001300** may be used to satisfy this requirement. Subject training will be given during Flight Line Drivers Training by the host **Base Operations Flight** _____ (insert who will conduct this training). All vehicle operators are responsible for performing a Foreign Object (FO) inspection on their vehicles including all towed equipment, vehicle tires and open cargo areas of vehicles prior to entering the marked runway, taxiway, flight line, and aircraft parking ramps and other areas as directed by the Installation FOD Awareness and Prevention Officer. All “open-air” delivery vehicles must be free of loose items/debris that could potentially fall from the vehicle and cause a FOD hazard. The cargo beds of pickups truck must be clean or covered prior to entering the airfield. Vehicles will be subject to inspection and denied entry if found unacceptable. Contractors and site/operations evaluators will ensure tools; equipment, rags, residue and hardware are properly stored and accounted for. **“Clean as you go” methods are required.**

d. Yes No, does not apply to this contract

d. PROTECTIVE BARRIERS/WARNING SIGNS: Contractor shall comply with the standards in: 29 CFR 1926, Subpart G, Sections 200, 201 and 202 and EM 385-1-1, US Army Corps of Engineers Manual, *Safety and Health Requirements*, 3 Nov 03, Sections 4, 8 and 24. Barricades must be provided by the contractor in an area for excavation, open manholes, overhead work, or the protection of personnel from hazardous operations, moving equipment or cranes. Barricades are required to cover holes in the ground properly (e.g.: rigid/protective – 200 pound load capacity for fall protection, Red & White rope for warning barricades. The contractor must barricade the area for overhead work to protect personnel from hazardous operations. For crane operations, the barricaded area must encompass one and one half times the longest extended length of the erected boom. Barricades must be erected before the work begins. If the barricades are in a roadway or walkway, blinking lights must be used after dark. When the work is complete, the barricades must be removed from the job site. Kerosene lamps and open flame pots shall not be used for or with warning signs or devices.

SIGNAGE: Mandatory for contractors working on an AF installation. A sign will be prominently posted on the contractor’s site at the entry/access point and shall contain the following information:

- Company Name, Contract Number, Site Superintendent & Phone Number, Site Safety Rep & Phone Number, QAP/ QAE Monitors & Phone Number.

e. Yes No, does not apply to this contract

e. WALKING – WORKING SURFACES: Contractor shall comply with the standards in 29 CFR 1910 Subpart D and NFPA 101, *Life Safety Code*. All interior walking and working surfaces which are part of the means of egress shall **remain** clear at all times and comply with the requirements of NFPA 101, *Life Safety Code*. Floors shall be kept in good condition and free of defects that can endanger workers or interfere with the handling of materials. Housekeeping – methods and controls are in place to minimize tripping hazards, the accumulation of flammable/combustible materials, etc. Portable metal ladders – methods and controls are in place to ensure inspection and safe use. Open-sided floors/platforms/runways must be protected and not left uncovered to prevent injury.

f. Yes No, does not apply to this contract

f. EXCAVATIONS: Contractor shall comply with the standards in 29 CFR 1926.651 and Subpart P, Appendix B & C and EM 385-1-1, US Army Corps of Engineers Manual, *Safety and Health Requirements*, 3 Nov 03 Section 25. In all excavations where employees are exposed to danger from moving ground, protection shall be provided by means of a shoring system, sloping of the ground or some other equivalent means. All trenches over five feet deep in either hard and compact or soft and unstable soil shall be sloped, shored, sheeted/braced or otherwise supported. Trenches less than five feet in depth shall also be effectively protected when hazardous ground movement may be expected.

g. Yes No, does not apply to this contract

g. SCAFFOLDING: Contractor shall comply with the standards in: 29 CFR 1910 Subpart D and 29 CFR 1926 Subpart L. Scaffolds are used for persons engaged in work that cannot be done safely from the ground or from solid construction. A competent and qualified person must be on site to make decisions on scaffolding operations. Contractor’s Safety Plan shall also address:

- Safety requirements for construction (as applicable), operation, maintenance, railings, toeboards, inspections, fall protection, and use
- Rails
- Bracing
- Toeboards
- Fall Protection

h. Yes No, does not apply to this contract

h. POWERED PLATFORMS, MANLIFTS AND VEHICLE-MOUNTED WORK

PLATFORMS: Contractor shall comply with the standards in 29 CFR 1910 Subpart F.

Manlifts are used for the purpose of allowing workers to perform duties at elevated levels. A competent and qualified person must be onsite to make decisions on manlift operations. **Note: Fall restraint is the preferred method for fall protection.** Contractor's Safety Plan shall also address:

- Personal Fall Arrest Systems (PFAS) {body harness, lanyard, lifeline, etc., inspections}
- Manlift – maintenance, inspection, and operation

i. Yes No, does not apply to this contract

i. AERIAL LIFT EQUIPMENT: Contractor shall comply with the standards in 29 CFR 1910.66 Subpart F, American National Standards Institute (**ANSI**) ANSI 92.2, ANSI 92.5, ANSI 92.6, and AFOSH STD 91-501, Air Force Consolidated Occupational Safety Standard, 7 Jul 04, para 16.4.3. Aerial lifts have inherent risks associated with their use. The Air Force has established procedures to ensure only trained and qualified personnel are operating aerial lifts. In the past, the lifts were identified that did not meet regulatory safety requirements and foreign objects (FO) were found on the equipment. Based on this negative trend and a fatal mishap in years past, the following policies, procedures and processes will be adhered to when aerial lifts are used to support a contractor mission:

(1) Aerial devices shall include the following types of vehicle mounted aerial devices used to elevate personnel to job sites above ground:

- Extendible boom platforms
- Aerial ladders
- Articulating boom platforms
- Vertical towers and a combination of any of the above

(2) Aerial equipment may be made of metal, wood, fiberglass reinforced plastic, or other material; may be powered or manually operated, and are deemed to be aerial lifts whether or not they are capable of rotating about a substantially vertical axis.

Note: SCISSOR LIFTS: OSHA Interpretation letters on file, place scissors lifts in the above described category regardless of powered or manual.

j. Yes No, does not apply to this contract

j. CONTRACTOR AERIAL LIFT DEVICES: Contractors shall comply with the standards in 29 CFR 1910.67 , 29 CFR 1926.453, and ANSI 92.2, *Standards for "Vehicle Mounted Elevating and Rotating Work Platforms*. Contractors, subcontractors, vendors, commercial delivery companies, and all other private business vehicles will comply with the following requirements while operating any type of aerial lift as described above, while on a DOD installation. This includes contractor owned equipment, leased or rented equipment acquired to support the contractual activities. Unless otherwise provided in this section, aerial devices (aerial lifts) acquired on or after July 1, 1975, shall be designed and constructed in conformance with the applicable requirements of the American National Standards for "Vehicle Mounted Elevating and Rotating Work Platforms, ANSI A92.2 - 1969, including **appendix** which is incorporated by reference as specified in 29 CFR 1910.66. Aerial lifts acquired for use before July 1, 1975 which do not meet the requirements of ANSI A92.2 - 1969, may not be used after July 1, 1976, unless they shall have been modified so as to conform to the applicable design and construction requirements of ANSI A92.2 - 1969. Prior to bringing an aerial device on a DoD installation, the contractor will ensure: Aerial devices meet the above 29 CFR 1910.66 and 1910.67 requirements. Aerial devices meet certification and classification for the designated work area. Aerial devices are serviceable, and all safety devices, warning devices, and interlocks operate. Aerial devices (regardless of guardrail, mid-rail or toe board configuration) will have fall protection attach points installed. Aerial devices will contain the manufacturer's manual and operator's safety manual. The applicable ANSI Standard will satisfy the requirement for a safety manual. The contractor and operating employee will be trained and certified on the leased/rental device and provide visual certification upon request. Aerial lifts will not be used to deliver employees to higher levels unless so certified.

k. Yes No, does not apply to this contract

k. PERSONAL PROTECTIVE EQUIPMENT FOR AERIAL LIFT DEVICES: To ensure compliance with 29 CFR 1910.66, Subpart F, Appendix C, 29CFR 1910.133, *Personal Protective Equipment*, 29CFR 1926.453, *Aerial Lifts*, 29CFR 1926.104, *Safety belts, Lifelines & Lanyards*, and 29CFR 1926.501, *Duty to have Fall Protection*; the contractor will ensure the following: Contractor employees will use fall restraint on all aerial lift devices unless so certified for fall arrest by the manufacturer. Fall restraint is the preferred standard for DOD installation operations with aerial devices. Fall restraint will consist of a harness (no body belts allowed) and a lanyard shortened to the minimum length to allow work but not allow the employee to leave the platform cage or stand on toe-boards or mid-rails. Energy absorbing lanyards are not authorized for fall restraint. Lanyards will have self-closing; self-locking keepers which remain

closed and locked until unlocked and pressed open for connection or disconnection. Contractor employees operating, observing and spotting for aerial devices will wear approved hard hats.

l. Yes No, does not apply to this contract

l. GENERAL FALL PROTECTION: Contractor shall comply with the standards in: 29 CFR 1910.66, Appendix C, Subpart F and 29 CFR 1926.500-502, Subpart M – If a person can fall 4 feet or more; fall protection must be provided to prevent injury. Contractor’s Safety Plan shall also address:

- Guardrail System (height and load rating)
- Safety Net System (location, inspection, and testing)
- Personal Fall Arrest System (PFAS)- life line, lanyard, component strength, and anchorage
- Fall Protection Plan
- Qualifications of persons

m. Yes No, does not apply to this contract

m. CRANES, DERRICKS, HOISTS, ELEVATORS, AND CONVEYORS: Contractor shall comply with the standards in: 29 CFR 1926 Subpart N – Cranes are used to move material, simplify materials handling and heavy or bulky supplies and equipment. Load capacities and operating speeds must be posted; special hazard warnings and instructions – visible to operator; hand signals – per ANSI standard for type of crane in use and inspections are performed by a competent person. Personnel must be trained/qualified/certified by a nationally recognized crane certification league to operate these items.

n. Yes No, does not apply to this contract

n. HAZARDOUS MATERIALS: Contractor shall comply with the standards in 29 CFR 1910.120, Subpart H – *The handling and Storing of Hazardous Materials (chemicals, compressed air, acetylene, etc).* When handling the hazardous material the following must be accomplished: Compressed gases – training, handling, storage, use, and PPE; flammable and combustible liquids – training, handling, storage use, and PPE. Contractor’s Safety Plan shall also address:

- Training, handling, storage, use and PPE
- Explosives and blasting agents
- Dipping and coating operations

o. Yes No, does not apply to this contract

o. COMPRESSED GAS AND COMPRESSED AIR EQUIPMENT: Contractor shall comply with the standards in 29 CFR 1910.169, Subpart M. Contractor's Safety Plan shall also address:

- Employee Training
- Inspections
- Storage and Handling

p. Yes No, does not apply to this contract

p. MATERIALS HANDLING AND STORAGE: Contractor shall comply with the standards in 29 CFR 1926.250, 953, 957 and 29 CFR 1910.101, Subparts F, H & N; and 29 CFR 1910.178, *Powered Industrial Truck*. Contractor's Safety Plan shall also address:

- Storage and handling of materials
- Disposal of trash from elevations
- Personnel lifting techniques--proper storage to prevent shifting, for stability, etc.
- Rigging (requirements, inspection, components, and qualifications)
- Equipment (use in handling materials)
- Industrial trucks (training, inspection, maintenance, and safe use.

q. Yes No, does not apply to this contract

q. HAZARDOUS WASTE OPERATIONS: Contractor shall comply with the standards in 29 CFR 1910.120 and 29 CFR 1926.65. Contractor's Safety Plan shall also address:

- Emergency Response Plan
- Personal Protective Equipment
- Medical Surveillance
- Health and Safety Plan (HASP-- required elements have been incorporated)
- Employee Training

r. Yes No, does not apply to this contract

r. **PERSONAL PROTECTIVE EQUIPMENT:** Contractor shall comply with the standards in 29CFR1910.132, 134, 136 Subpart I and 29 CFR 1926, 28, 95, 100, 101, 102, & 951. Personnel protective equipment is required to be worn when employees are exposed to a potential hazard, working overhead, falling objects, etc. Contractor's Safety Plan shall also address:

- Eye and face protection
- Head protection
- Foot Protection
- Electrical protective equipment
- Hand protection
- Safety harnesses, life lines, and lanyards.

s. Yes No, does not apply to this contract

s. **RESPIRATORY PROTECTION PROGRAM ELEMENTS:** *Contractor shall comply with the standards in 29 CFR 1910.134 and 29 CFR 1926.134.* Respirators are required to be worn if employees are exposed to inhalation hazard. Contractor's Safety Plan shall also address:

- Training
- Medical evaluation
- Fit tests
- Selection of respiratory equipment
- Storage of respiratory equipment
- Pre-use checks

t. Yes No, does not apply to this contract

t. **CONFINED SPACE PROGRAM ELEMENTS:** Contractor shall comply with the standards in 29 CFR 1910.120, 146 and 29 CFR 1926.21 and 353 and AFOSH STD 91-25, *Confined Spaces*, 1 Feb 98. A confined space must meet the following three criteria:

- (1) Is large enough and so configured that an employee can bodily enter and perform assigned work; and
- (2) has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry.); and
- (3) is not designed for continuous employee occupancy.

Examples: underground vaults, tanks, storage bins, manholes, pits, silos, process vessels, and pipelines. Contractor's Safety Plan shall address:

- Hazards of confined space
- Permit and Non-permit confined spaces
- Responsibilities of management, entry supervisor, authorized entrant, and authorized attendants
- Training requirements
- Permit handling and approval
- Emergency and rescue plans
- Testing and monitoring requirements
- Special hazards
- Posting requirements (applicable to subcontractor operated facilities)

u. Yes No, does not apply to this contract

u. WELDING, CUTTING AND BRAZING: Contractor shall comply with the standards in: 29 CFR 1910.251 thru 255 and 29 CFR1926.102(b), 153, 453(b), AFOSH STD 91-5, *Welding, Cutting and Brazing*, Chap 1 thru 3, NFPA 410 *Aircraft Maintenance*, 2004 Edition, and NFPA 51B, *Fire Prevention During Welding, Cutting, and Other Hot Work*, 2003 Edition Contractor's Safety Plan shall also address:

- Welding Permit Required from Fire Department
- Training/worker knowledge
- Equipment inspections, service, and use
- Fire protection and prevention
- Protective equipment & welding shields
- Health protection (PPE)
- Ventilation
- Cylinders and containers
- Cylinder storage

v. Yes No, does not apply to this contract

v. ELECTRICAL: Contractor shall comply with the standards in 29 CFR 1910 Subpart S, 29 CFR 1926 Subpart K, AFOSH STD 91-501, *Air Force Consolidated Occupational Safety Standard*, 7 Jul 04, Chap 8, and NFPA 70. All electrical wiring must be IAW National Electrical Code (NEC) 70. Electrical wiring and equipment shall be a type listed by UL or another recognized listing agent. Contractor's Safety Plan shall also address:

- Selection and use of work practices

- Training (basic electrical safety knowledge)
- Use of equipment (handling, visual inspection, rating of equipment)
- GFCI Protection for outside contractor drops and wet/damp areas
- Arc Flash

w. Yes No, does not apply to this contract

w. **HAZARDOUS ENERGY CONTROL PROGRAM ELEMENTS (LOCKOUT-TAGOUT):** Contractor shall comply with the standards 29 CFR 1910 Subpart S, 29 CFR 1926 Subpart K, AFOSH STD 91-501, *Air Force Consolidated Occupational Safety Standard*, 7 Jul 04, Chap 21, and NFPA 70. Contractor's Safety Plan shall also address:

- Purpose of hazardous energy control program
- Employee training
- Lockout/tagout procedures-Removal of locks and tags
- Periodic inspections
- Restoring equipment to normal operations
- Arc Flash
- Portable Fire Extinguishers (proper type, inspection, maintenance, testing, and training)

x. Yes No, does not apply to this contract

x. **MACHINERY AND MACHINE GUARDING:** Contractor shall comply with the standards in 29 CFR 1910 Subpart O. Contractor's Safety Plan shall also address:

- Control of rotating parts, flying chips, and sparks
- Inspection
- Maintenance

y. Yes No, does not apply to this contract

y. **HAND AND PORTABLE POWERED TOOLS AND OTHER HAND-HELD EQUIPMENT:** Contractor shall comply with the standards in 29 CFR 1910 Subpart P and 29 CFR 1926 Subpart I. Contractor's Safety Plan shall also address:

- Inspection
- Proper use
- Guarding
- Maintenance
- Control of rotating parts, flying chips, and sparks

z. Yes No, does not apply to this contract

z. TOXIC AND HAZARDOUS SUBSTANCES: Contractor shall comply with the standards in 29 CFR 1910 Subpart Z and 29 CFR 1926 Subpart Z. Contractor's Safety Plan shall also address:-A section related to working with toxic and hazardous substances, such as asbestos, benzene, lead, and styrene, where the following areas are addressed:

- Threshold Limit Values (TLV)-Exposure monitoring
- Medical surveillance
- Work practices
- Engineering controls
- Respiratory protection
- Protective clothing (PPE)

aa. Yes No, does not apply to this contract

aa. HAZARDOUS COMMUNICATIONS: Contractor shall comply with the standards in 29 CFR 1910.1200. Contractor's Safety Plan shall also address:

- Written Program-list of hazardous chemicals
- Identify the hazardous chemical(s)-labeling system
- MSDS data sheet location
- Employee information and training-methods used to inform employees of the hazards, and precautionary measures

bb. Yes No, does not apply to this contract

bb. DEMOLITION: Contractor shall comply with the standards in 29 CFR 1926 Subpart T. Contractor's Safety Plan shall also address:

- Preparatory Operations
- Removal of Materials-walls, floors, & steel construction
- Mechanical Demolition
- Engineering survey by a competent person & service lines shut off

cc. Yes No, does not apply to this contract

cc. **HEAT STRESS:** 29 CFR 1908 General Duty Clause-The employer will provide a safe and healthful workplace for all employees, AFI 10-220 (DLAI 8210.1, NAVAIRINST 37.10.1D), *Contractors Flight and Ground Operations*, AFI 10-220, *Contractor's Flight and Ground Operations*, 1 Mar 07, Section E (Procedures), Para 1d. Contractor's Safety Plan shall also address:

- Pre-hydration
- Acclimatization

dd. Yes No, does not apply to this contract

dd. **GENERAL ENVIRONMENTAL CONTROLS:** Contractor shall comply with the standards in 29 CFR 1910 Subpart G, 29 CFR 1910 Subpart J and 29 CFR 1926 Subpart D. Contractor's Safety Plan shall also address:

- Sanitation-toilet and washing facilities
- Accident prevention signs and tags

ee. Yes No, does not apply to this contract

ee. **HEARING CONSERVATION PROGRAM ELEMENTS:** Contractor shall comply with the standards in 29 CFR 1910.95 and 29 CFR 1926.52. *NOTE: Noise exposures are based on ACGIH guidelines of 85 dB TWA.* Contractor's Safety Plan shall also address:

- Monitoring (survey of noise producing equipment)
- Audiometric testing
- Hearing Protectors
- Training
- Recordkeeping/Access to information and training material

ff. Yes No, does not apply to this contract

ff. **MEDICAL AND FIRST AID:** Contractor shall comply with the standards in 29 CFR 1910 Subpart K and 29 CFR 1926 Subpart C. Contractor's Safety Plan shall also address:

- Adequate first aid supplies
- Trained employee to render first aid
- Recordkeeping
- Reporting and investigating accidents/incidents

- Off-site physician(s)
- Maintenance of and employee access to exposure monitoring data and medical records

gg. Yes No, does not apply to this contract

gg. GROUNDING, BONDING OF AIRCRAFT & AVIONICS EQUIPMENT: Contractor shall comply with the standards for grounding and bonding in accordance with TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 15 Jul 02/Change 12-12 Feb 08, for aircraft repair and TO 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance and Test of Electrical Equipment*, 1 Aug 88/Change 36, 13 Aug 07, for avionics equipment.

hh. Yes No, does not apply to this contract

hh. BATTERIES: Contractor shall comply with the standards for battery servicing in accordance with OSHA Standard 29 CFR 1910.178 and 29 CFR 1910.305 and (cite specific applicable aircraft T.O.s).

ii. Yes No, does not apply to this contract

ii. HANDLING, STORAGE, & USE OF FLAMMABLE/COMBUSTIBLE LIQUIDS: Contractor shall comply with the standards in NFPA 30, *Flammable and Combustible Liquids Code*, 2008 Edition, NFPA 33 *Spray Application Using Flammable or Combustible Materials*, 2007 Edition, DoD 4145.19-R-1, *Storage and Materials Handling*, 15 Sep 79, Chpts 5 and 6 and DOD 4140.25-M (for POL storage).

jj. Yes No, does not apply to this contract

jj. SYSTEM MODIFICATION-WHICH ALTERS FORM, FIT OR FUNCTION: Contractor shall comply with Mil Standard 882D, *Standard Practice for System Safety*, 10 Feb 00 and AFI 91-202, *The US Air Force Mishap Prevention Program*, 1 Aug 98, Chap 9 for system modifications, which alter form, fit, or function.

kk. Yes No, does not apply to this contract

kk. SOLDERING: Soldering shall be conducted in accordance with the requirements in T.O. 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance and Test of Electrical Equipment*, 1 Aug 88/Change 36, 13 Aug 07, Chapter 3 and 29 CFR 1910.253.

ll. Yes No, does not apply to this contract

ll. HOUSEKEEPING: Housekeeping shall be conducted according to the requirements in OSHA Standard 29 CFR 1910.141. ***CLEAN AS YOU GO*** will be enforced. Refuse, trash, and debris will be collected daily and not left on site to prevent hazards during high winds and inclement weather.

mm. Yes No, does not apply to this contract

mm. AIRCRAFT PAINTING & PAINT REMOVAL OPERATIONS: Contractor shall comply with the standards in T.O. 1-1-8, *Application and Removal of Organic Coatings, Aerospace and Non-aerospace Equipment*, 15 February 06, Change 3/30 January 08; NFPA 33, *Spray Application Using Flammable or Combustible Materials*, 2007 Edition, NFPA 70, *National Electrical Code*, 2008 Edition; NFPA 91, *Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids*, 2004 Edition; NFPA 409, *Aircraft Hangars*, 2004 Edition ; NFPA 410, *Aircraft Maintenance*, 2004 Edition and (cite specific applicable aircraft T.O.s)

nn. Yes No, does not apply to this contract

nn. PAINTING & PAINT REMOVAL: Painting and paint removal shall be accomplished according to T.O. 1-1-8 *Application and Removal of Organic Coatings, Aerospace and Non-aerospace Equipment*, 15 February 06, Change 3/30 January 08; NFPA 33, *Spray Application Using Flammable or Combustible Materials*, 2007 Edition and NFPA 410, *Aircraft Maintenance*, 2004 Edition.

oo. Yes No, does not apply to this contract

oo. **CLEANING/CORROSION CONTROL OF AIRCRAFT:** Corrosion removal and treatment shall be conducted according to T.O. 1-1-691, *Cleaning and Corrosion Prevention and Control, Aerospace and Non-Aerospace Equipment*, 1 Jul 03, Change 2, 19 Oct 07.

pp. Yes No, does not apply to this contract

pp. **CLEANING/CORROSION CONTROL FOR AVIONICS AND ELECTRONICS:** Corrosion removal and treatment shall be conducted according to TO 1-1-689-3, *Cleaning and Corrosion Control Volume III Avionics and Electronics*, 1 Mar 05; and T.O. 1-1-689-5, *Cleaning and Corrosion Control Volume V Consumable Materials and Equipment for Avionics*. 1 Mar 05.

qq. Yes No, does not apply to this contract

qq. **ELECTRONIC/ELECTROSTATIC DISCHARGE SENSITIVE COMPONENTS:** An electrostatic discharge program, when applicable, shall be implemented according to MIL-HDBK-263B, *Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)*, 31 Jul 94, MIL-STD-1686C, *Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices)*, 25 Oct 95 and T.O. 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance and Test of Electrical Equipment*, 1 Aug 88/Change 36, 13 Aug 07 or the commercial standard ANSI/ESD S20.20, *Electrostatic Discharge Control Program-Protection of Electrical & Electronic Parts, Assemblies and Equipment*, 4 Aug 99.

rr. Yes No, does not apply to this contract

rr. **AIRCRAFT MAINTENANCE:** Contractor shall comply with the standards in AFOSH STD 91-100, *Flightline Vehicle Operations*, 1 May 98, Chap 8 *site specific applicable Dash 2 Series Technical Orders*, and AFI 21-101, *Aircraft and Equipment Maintenance Management*, 29 Jun 06.

ss. Yes No, does not apply to this contract

ss. **SAFING EGRESS/ESCAPE SYSTEMS:** Contractor shall comply with the standards in T.O. 11A-1-33, *Handling and Maintenance of Explosives-Loaded Aircraft*, 11 Jan 05, and site specific applicable aircraft Technical Orders.

tt. Yes No, does not apply to this contract

tt. **FLUID PURGING OF AIRCRAFT:** Aircraft fuel tanks must be fluid purged IAW T.O. 1-1-3, *Inspection and Repair of Aircraft Integral tanks and Fuel Cells*, dated 31 Aug 06/Change 2, 1 May 07, paragraph 9.5.

uu. Yes No, does not apply to this contract

uu. **AIRCRAFT TOWING/PARKING/MOORING:** Towing, parking and mooring procedures must comply with AFI 11-218, *Aircraft Operations and Movement on the Ground*, Chap 1, Sect 1D, 1 May 95 AFOSH STD 91-100, *Flightline Vehicle Operations*, 1 May 98, Chap 2, Unified Facility Code (UFC260-1, *Airfield and heliport Planning and Design*, 1 Nov 01, Change of 19 May 06, site specific applicable aircraft Technical Orders.

vv. Yes No, does not apply to this contract

vv. **ON-AIRCRAFT ENGINE OPERATIONS/ENGINE RUNS:** Contractor's procedures must comply with AFI 11-218, *Aircraft Operations and Movement on the Ground*, Chap 1, Sect 1D, 1 May 95, site specific applicable aircraft T.O.s and AFOSH STD 91-100, *Flightline Vehicle Operations*, 1 May 98, paras 1.2.16 – 1.2.17.9 and 2.2.21 - 2.2.21.2.

ww. Yes No, does not apply to this contract

ww. **REMOVE/INSTALL AIRCRAFT ENGINES:** Contractor shall comply with the procedures in T.O. 2J-1-18, *Preparation for Shipment and Storage of Gas Turbine Engines*, 15 Feb 93- change 13, 30 Jun 02 and (list applicable Aircraft Handbooks).

xx. Yes No, does not apply to this contract

xx. **HANGERING OF FUELED AIRCRAFT:** Aircraft hangars where fueled aircraft will be stored must meet the facility requirements in NFPA 70, *National Electrical Code*, 2008 Edition, NFPA 409, *Aircraft Hangars*, 2004 Edition; NFPA 410, *Aircraft Maintenance*, 2004 Edition,

and T.O. 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*, and Air Force Civil Engineer Support Agency (AFCESA) Engineering Technical Letters (ETL) listed in PART III.

yy. Yes No, does not apply to this contract

yy. **FUELING/DEFUELING OPERATIONS:** All fueling/defueling operations will be in compliance with T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 15 Jul 02/Change 12-12 Feb 08; T.O. 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*, 31 Aug 06/Change 2, 1 May 07, Air Force Civil Engineer Support Agency (AFCESA) Engineering Technical letters (ETL) listed in PART III, and list specific applicable Aircraft Technical Orders.

zz. Yes No, does not apply to this contract

zz. **FUEL TANK /FUEL CELL REPAIR:** Fuel tank/cell work will be accomplished IAW the requirements in T.O. 1-1-3, *Inspection and Repair of Aircraft Integral tanks and Fuel Cells*, dated 31 Aug 06/Change 2, 1 May 07, Air Force Civil Engineer Support Agency (AFCESA) Engineering Technical Letters (ETL) listed in PART III, and list specific applicable Aircraft Technical Orders.

aaa. Yes No, does not apply to this contract

aaa. **FUEL TANK/CELL FOAM REMOVAL/DRYING/STORAGE & INSTALLATION:** Contractor's procedures shall comply with T.O. 1-1-3, *Inspection and Repair of Aircraft Integral tanks and Fuel Cells*, 31 Aug 06/Change 2, 1 May 07, Chap 5, Air Force Civil Engineer Support Agency (AFCESA) Engineering Technical Letters (ETL) listed in PART III and list specific applicable Aircraft Technical Orders.

bbb. Yes No, does not apply to this contract

bbb. **AIRCRAFT JACKING OPERATIONS:** Contractor's procedures shall comply with site specific applicable aircraft T.O.s and 35A2 series Technical Orders (various jacking equipment), and AFOSH STD 91-100 *Flightline Vehicle Operations*, 1 May 98, Chap 3.

ccc. Yes No, does not apply to this contract

ccc. LIQUID GASEOUS OXYGEN/CRYOGENICS: Contractor's procedures shall comply with AFOSH STD 91-501, *Air Force Consolidated Occupational Safety Standard*, 7 Jul 04, Chap 22, AFOSH STD 91-67, *Liquid Nitrogen and Oxygen*. 1 Oct 97 (all), T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*, 15 Jul 02/Change 12-12 Feb 08 (all) and NFPA 51, *Design & Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 2007 Edition, Chap 4.

ddd. Yes No, does not apply to this contract

ddd. WORK STANDS/PLATFORMS: Contractor's procedures shall comply with AFOSH STD 91-501, *Air Force Consolidated Occupational Safety Standard*, 7 Jul 04, Chap 16 and 35A4 series T.O.s -Ground Support Equipment (various maintenance stands).

eee. Yes No, does not apply to this contract

eee. SEVERE WEATHER PLAN: Contractor shall comply with the standards in NAS 3306, AFI 10-220, *Contractor's Flight and Ground Operations*, 1 Mar 07, paras 5.1.2.25 – 5.1.2.25.6. Contractor's Safety Plan shall also address instructions for personnel and equipment and debris.

fff. Yes No, does not apply to this contract

fff. FIRE PROTECTION FOR FACILITIES: Contractor's procedures shall comply with NFPA 10, *Portable Fire Extinguishers*, 2007 Edition; NFPA 13, *Installation of Sprinkler Systems*, 2007 Edition; NFPA 33, *Spray Application Using Flammable or Combustible Materials*, 2007 Edition; NFPA 70, *National Electrical Code*, 2008 Edition; NFPA 72, *National Fire Alarm Code*, 2007 Edition; NFPA 91, *Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids*, 2004 Edition; NFPA 409, *Aircraft Hangars*, 2004 Edition; NFPA 410, *Aircraft Maintenance*, 2004 Edition; NFPA 418, *Fire protection for Heliports*, 2006 Edition; NAS 3306, *Facility Requirements for Aircraft Operations*, May 00 and RAFBI 32-2001, *The Fire Protection Operations and Fire Prevention Program*, 24 Sep 04, Change 1, 8 June 07, para 2.5, and Air Force Civil Engineer Support Agency (AFCESA) Engineering Technical Letters (ETL) listed in PART III.

ggg. Yes No, does not apply to this contract

ggg. EXPLOSIVE SAFETY REQUIREMENTS: Contractor shall comply with the standards in AFMAN(I) 24-204, *Preparing Hazardous Materials for Military Air Shipments*, 15 Apr 07 Change 1, 4 May 2007; and dash 11 series TOs; DoDI 4145.26M, *DoD Contractors' Safety Requirements for Ammunition and Explosives*, 9 Apr 05; DoD 4145.19-R-1, *Storage and Materials Handling*, 15 Sep 79, Chpts 5/6; AFJMAN 23-210, *Joint Service Manual for Storage and Material Handling*, Apr 94; TO 11A-1-33, *Handling and Maintenance of Explosives-Loaded Aircraft*, 20 Nov 08), TO 11A-1-46, *Fire Fighting Guidance, Transportation, and Storage*, 15 Nov 04 Change 6 (12 Nov 08) for all handling of all explosive devices to be removed, installed, stored or transported, AFMAN 91-201, *Explosive Safety Standards*, 17 Nov 08, and RAFBI 24-103, *Preparation and Movement of Air Cargo*. *(Insert local Operating Instructions or Directives applicable to your base)*.

Note: T.O. 11A-1-46 is being rescinded and will be part of the Joint Hazard Classification System through the Defense Ammunition Center. Contractor's Safety Plan shall also address training

hhh. Yes No, does not apply to this contract

hhh. AIRFIELD CRITERIA: Contractor furnished airfields shall comply with the standards in National Aerospace Standard (NAS) 3306, *Facility Requirements for Aircraft Operations*, May 00, Chap 4; and UFC 3-260-01, *Airfield and heliport Planning and Design*, 1 Nov 01, Change of 19 May 06; UFC 3-260-02, *Pavement Design for Airfields*, 30 Jun 01.

iii. Yes No, does not apply to this contract

iii. AIRFIELD RESCUE & FIREFIGHTING CAPABILITIES: Contractor furnished fire trucks, personnel and training must meet the requirements in NFPA 403, *Aircraft Rescue and Fire-Fighting Services at Airports*, 2003 Edition; NFPA 412, *Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment*, 2003 Edition; NFPA 414, *Aircraft Rescue and Fire-Fighting Vehicle*, 2007 Edition, NAS 3306, *Facility Requirements for Aircraft Operations*, May 00, paras 5.3 thru 5.5.1, and Air Force Civil Engineer Support Agency (AFCESA) Engineering Technical Letters (ETL) listed in PART III.

jjj. Yes No, does not apply to this contract

jjj. **ACCEPTANCE/FUNCTIONAL CHECK FLIGHT & MAINTENANCE OPERATION CHECKS:** Contractor's procedures shall comply with T.O. 1-1-300, *Maintenance Operational Checks and Check Flights*, 14 Nov 07.

kkk. Yes No, does not apply to this contract

kkk. **CONTRACTORS FLIGHT & GROUND OPERATIONS:** Contractor's shall comply with the standards and procedures in AFI 10-220, *Contractor's Flight and Ground Operations*, 1 Mar 07. If this is an aircraft contract monitored by DCMA, include the Ground Flight Risk (GFR) Clause.

lll. Yes No, does not apply to this contract.

lll. **LAWN/GROUND SERVICES:** Contractor furnished landscaping and lawn equipment must comply with the standards in 29 CFR 1910. 243, AFOSH STD 91-501, *Air Force Consolidated Occupational Safety Standard*, 7 Jul 04, Chapter 15 AFOSH STD 91-10, *Civil Engineering*, 1 Jul 98, Chapter 3, Landscape and Ground maintenance Care and Mowing Safety Guidance, and T.O. 47C1-1, *Safety Instructions for Lawn Care Equipment*.

PART III

AIR FORCE CIVIL ENGINEERING SUPPORT AGENCY ENGINEERING TECHNICAL LETTERS. This list is current as January 2009. Offerors must ensure the AFCESA website is searched to ensure currency. This site is found at <https://www.my.af.mil/gcss-af/USAF/> ENGINEERING TECHNICAL LETTERS (ETL)

No.	Title	Status	Date
82-1	Energy Budget Figures	Superseded by ETLs 83-10, 86-1, 87-4	10 Nov 82
82-2	Energy Efficient Equipment	Superseded by AFEPPM 88-10	10 Nov 82
82-3	Computer Energy Analyses – New Facilities	Superseded by ETLs 83-5, 84-2	10 Nov 82
82-4	Energy Conservation Investment Program	Superseded by ETL 84-7	10 Nov 82
82-5	Solar Applications	Superseded by ETLs 84-1, 86-13, 86-14	10 Nov 82
82-6	Normal Passive Solar Applications	Canceled	30 Dec 82
82-7	Unique Passive Solar Applications	Canceled	30 Nov 82
83-1	Design of Control Systems for HVAC		16 Feb 83
83-2	Supplemental Design Guidance to AF Standards – Pressurized Hydrant Fueling Systems	Superseded by ETL 84-3	16 Feb 83
83-3	Interior Wiring Systems,	AFM 88-15, Para 7-3 Canceled	2 Mar 83
83-4	EMCS Data Transmission Media	Considerations Canceled	3 Apr 83
83-5	Computer Energy Analyses	Superseded by ETL 84-2 5	May 83
83-6	Solar Applications in Medical Facilities	Canceled 24	May 83
83-7	Plumbing – AFM 83-8, Chapter 4	Canceled	30 Aug 83
83-8	Use of Air-to-Air Unitary Heat Pumps	Canceled	15 Sep 83
Chg 1 to ETL 83-1 U.S. Air Force Standardized HVAC Control Systems			22 Jul 87
83-9	Insulation	Superseded by ETL 94-4	14 Nov 83
83-10	Energy Budget Figure (EBF)	Superseded by ETL 86-1	28 Nov 83
84-1	Solar Applications	Superseded by ETL 86-14	18 Jan 84
84-2	Computer Energy Analysis	Superseded by ETL 94-4	27 Mar 84
84-3	AF Petroleum Fuel Facility Criteria and Standards	Canceled	21 Mar 84

84-4	Meters in New Facilities Superseded by ETLs 86-7, 86-15, 87-5	10 Apr 84
84-5	Heat Distribution Systems Outside of Bldg Superseded by ETLs 84-8, 86-11, 86-18, and 88-67	May 84
84-7	MCP Energy Conservation Investment Program (ECIP) Superseded FEPPM 96-4	13 Jun 84
84-8	Heat Distribution Systems Outside of Bldgs Superseded by ETL 86-11	19 Jun 84
84-9	TEMPEST/EMP Shielding for Facilities Superseded by ETL 88-7	5 Jul 84
84-10	AF Building Construction and the Use of Termiticides Canceled	1 Aug 84
86-1	Energy Budget Figures (EBFs) for Facilities in the Military Construction Program Superseded by ETL 87-7	3 Feb 86
86-2	Energy Management and Control Systems (EMCS) Canceled	5 Feb 86
86-3	Paints and Protective Coatings Superseded by ETL 86-4	21 Feb 86
86-4	Coating Systems & Specs for Exterior and Interior of Steel Tanks Canceled	12 May 86
86-5	Fuels Use Criteria for Air Force Construction Canceled	22 May 86
86-6	Heat Distribution Systems Outside of Bldgs Superseded by ETLs 86-11, 86-18, 88-6	3 Jun 86
86-7	Utility Meters in New and Renovated Facilities Superseded by ETL 86-15	3 Jun 86
86-8	Aqueous Film Forming Foam Waste Discharge Retention and Disposal	4 Jun 86
86-9	Lodging Facility Design Guide Superseded by AFCEE Temporary Lodging Facilities Design Guide	Jun 86
86-10	Antiterrorism Planning and Design Guidance Superseded by AFCEE Design Guide, Installation Force Protection Guide	13 Jun 86
86-11	Heat Distribution Systems Outside of Buildings Superseded by ETL 88-6	3 Jul 86
86-12	Prewired Workstations and Systems Furniture Superseded by ETL 90-2	3 Jul 86
86-13	Solar Applications Superseded by ETL 86-14	18 Aug 86
86-14	Solar Applications Canceled	15 Oct 86
86-15	Utility Meters in New and Renovated Facilities Superseded by ETL 87-5	13 Nov 86

86-16	Direct Digital Control of Heating, Ventilation, and Air Conditioning Systems		9 Dec 86
86-17	Power Conditioning and Continuation Interfacing Equipment (PCCIE) ETL 89-6		Superseded by 17 Dec 86
86-18	Heat Distribution Systems Outside of Buildings	Superseded by ETL 88-6	18 Dec 86
87-1	Lead Ban Requirements of Drinking Water	Superseded by AFI 32-1067	15 Jan 87
87-2	Volatile Organic Compounds	Canceled	4 Mar 87
87-3	Cathodic Protection	Superseded by ETLs 87-6, 88-5	12 Mar 87
87-4	Energy Budget Figures (EBFs) for Facilities in the Military Construction Program Superseded by ETL 94-4		13 Mar 87
87-5	Utility Meters in New and Renovated Facilities	Superseded by ETL 94-2	13 Jul 87
87-6	Cathodic Protection	Superseded by ETL 88-5	21 Aug 87
87-7	1987 Energy Prices and Discount Factors for Life-Cycle Cost Analysis Superseded by ETL 89-1		14 Oct 87
87-8	Built-Up Roof Repair/Replacement Specifications	Superseded by ETL 90-1	19 Oct 87
87-9	Pre-wiring	Superseded by ETL 02-12	21 Oct 87
88-1	Standard Guidelines for Submission of Facility Operating and Maintenance Manuals Superseded by ETL 89-2		5 Jan 88
88-2	Photovoltaic Applications	Superseded by AFCESA Tech Data Bulletin, Photovoltaic Concept, Design, and Application	21 Jan 88
88-3	Design Standards for Critical Facilities	Superseded by AFMAN 32-1146(I)	15 Jun 88
88-4	Reliability & Maintainability Design Checklist	Superseded by ETL 01-1	24 Jun 88
88-5	Cathodic Protection	Superseded by ETL 91-6	2 Aug 88
88-6	Heat Distribution Systems Outside of Buildings	Superseded by AFI 32-1068	1 Aug 88
88-7	TEMPEST and High-Altitude Electromagnetic Pulse (HEMP) Protection for Facilities Superseded by ETLs 90-3, 91-2		24 Aug 88

88-8	Chlorofluorocarbon (CFC) Limitation in Heating, Ventilating, and Air-Conditioning (HVAC) Systems	Superseded by ETL 91-7	4 Oct 88
88-9	Radon Reduction in New Facility Construction	Canceled	7 Oct 88
88-10	Prewired Work Station Guide Specifications	Canceled	29 Dec 88
89-1	1988 Energy Prices and Discount Factors for Life-Cycle Cost Analysis	Superseded by ETL 90-4	6 Feb 89
89-2	Std Guides for Submission of Facility Operating and Maintenance Manuals		23 May 89
89-3	Fire Protection Engineering Criteria for Electronic Equipment Installations	Superseded by ETL 93-5	9 Jun 89
89-4	Systems Furniture Guide Specification	Canceled	6 Jul 89
89-5	AF Interior Design Policy Issued as ETL 90-789-6	Power Conditioning and Continuation - Interfacing Equipment (PCCIE) in Military Construction Program (MCP) Canceled	7 Sep 89
89-7	Design of AF Courtrooms	Superseded by AF Base Legal Facilities Design Guide	29 Sep 89
90-1	Built-Up Roof (BUR) Repair/Replacement Guide Specification	Superseded by UFGS 07 51 13, Built-up Asphalt Roofing	23 Jan 90
90-2	General Policy for Prewired Workstations and Systems Furniture	Canceled	26 Jan 90
90-3	TEMPEST Protection for Facilities	Canceled	
90-4	1990 Energy Prices and Discount Factors for Life-Cycle Cost Analysis	Canceled	24 May 90
90-5	Fuel & Lube Oil Bulk Storage Capacity-Emergency Generators	Superseded by AFI 32-1062, Electrical Power Plants and Generators	26 Jul 90
90-6	Electrical System Grounding, Static Grounding and Lightning Protection		3 Oct 90
90-7	Air Force Interior Design Policy	Canceled	12 Oct 90
90-8	Guide Specifications for Ethylene Propylene Diene Monomer (EPDM) Roofing	Superseded by UFGS 07 53 23, Ethylene Propylene Diene Monomer Roofing	17 Oct 90
90-9	Fire Protection Engineering Criteria for Aircraft Maintenance, Servicing, and Storage Facilities	Superseded by ETL 96-1	2 Nov 90

90-10	Commissioning of Heating, Ventilating, and Air Conditioning (HVAC) Systems Guide Specification		17 Oct 90
91-1	Fire Protection Engineering Criteria -Testing Halon Fire Suppression Systems		2 Jan 91
91-2	High Altitude Electromagnetic Pulse (HEMP) Hardening in Facilities		4 Mar 91
91-3	Water Supply for Fire Protection Superseded by MIL-HDBK-1008B, Jan 94		14 Jun 91
91-4	Site Selection Criteria for Fire Protection Training Areas		14 Jun 91
91-5	Fire Protection Engineering Criteria – Emergency Lighting and Marking of Exits Superseded by ETL 94-5		
91-6	Cathodic Protection Superseded by MIL-HDBK-1136 (now UFC 3-570-06) and MIL HDBK 1004/10 will become UFC 3-570-07)		3 Jul 91
91-7	Chlorofluorocarbon (CFC) Limitation in Heating, Ventilating, and Air- (HVAC) Systems	Canceled	Conditioning 21 Aug 91
91-8	Facility Electrical Power for Aircraft Ground Support Equipment (Hangars, Aprons, and Ramps)	Canceled	24 Sep 91
93-1	Construction Signs	Superseded by ETL 02-9 1	1 Mar 93
93-2	Dormitory Criteria for Humid Areas	Superseded by ETL 03-2	13 Jul 93
93-3	Inventory, Screening, Prioritization, and Evaluation of Existing Buildings for Seismic Risk	Canceled	18 Aug 93
93-4	Fire Protection Engineering Criteria - Automatic Sprinkler Systems in Military Family Housing (MFH)	Superseded by UFC 3-600-01	11 Aug 93
93-5	Fire Protection Engr Criteria - Electronic Equipment Installations	Superseded by ETL 01-18	
94-1	Standard Airfield Pavement Marking Schemes	Superseded by ETL 04-2	5 Apr 94
94-2	Utility Meters in New and Renovated Facilities	Superseded by UFC 3-400-01	10 Jun 94
94-3	Air Force Carpet Standard	Superseded by ETL 00-6	10 Jun 94
94-4	Energy Usage Criteria for Facilities in the Military Construction Program	Superseded by UFC 3-400-01	19 Aug 94
94-5	Fire Protection Engineering Criteria and Technical Guidance	Superseded by ETL 99-4	8 Nov 94

94-6	Fire Protection Engineering Criteria and Technical Guidance - Removal of Halogenated Agent Fire Suppression Systems		5 Dec 94
94-7	EPA Guideline Items in Construction and Other Civil Engineering Specifications Superseded by ETL 00-1		14 Dec 94
94-8	Design in Metric	Canceled	14 Dec 94
94-9	Silicone Joint Sealants for Pavements	Superseded by ETL 96-4	14 Dec 94
95-1	Halon 1301 Management Planning Guidance		12 May 95
95-2	Preparation of Requirements and Management Plan (RAMP) Packages for Military Construction (MILCON) Program Projects <i>Superseded by AFCEE Project Managers Guide For Design And Construction</i>		26 Oct 95
95-3	Planning Guide for Installation of Ultra-High-Molecular-Weight (UHMW) Polyethylene Panels Under Aircraft Arresting System Cables (CONUS Installations) by AFI 32-1043 26	Superseded	Oct 95
95-4	Mandatory Energy/Water Performance Standards for Replaced or Modified Equipment Superseded by UFC 3-400-01		31 Oct 95
96-1	Fire Protection Engineering Criteria–New Aircraft Facilities	Superseded by ETL 98-7	22 Jan 96
96-2	Elimination of Liquid Polychlorinated Biphenyls (PCBs) Prioritization Guidance CNX		2 May 96
96-3	Typical Statement of Work for Airfield Pavement Condition Survey		26 Jun 96
96-4	Temporary Joint Sealing Details and Procedures for Pavements		9 Jul 96
96-5	Hangar Concrete Floor Reflective Coating Criteria		26 Aug 96
97-1	National Primary Drinking Water Regulations: Lead and Copper Rule (LCR) Corrosion Control Desk-Top Report Statement of Work (SOW)	Canceled	29 Jan 97
97-2	Maintenance & Repair of Rigid Airfield Pavement Surfaces, Joints, and Cracks		28 Jul 97
97-3	Base Course Proof Rolling Requirements		25 Mar 97
97-4	Expedient Trim Pad Anchoring	Superseded by ETL 06-4	2 Jun 97
97-5	Proportioning Concrete Mixtures with Graded Aggregates for Rigid Airfield Pavements		25 Apr 97
97-8	Bldg Manager Energy Conservation Handbook	Superseded by ETL 98-4	9 Jun 97

97-9	Criteria and Guidance for C-17 Contingency Operations on Semi-Prepared Airfields	25 Nov 97
97-10	Structural Evaluation of Existing Buildings for Seismic and Wind Loads Superseded by ETL 00-5	30 Oct 97
97-11	Mitigation of Non-Structural Seismic and High Wind Deficiencies for Existing Buildings Superseded by ETL 00-5	30 Oct 97
97-12	Mitigation of Existing Building Structural Deficiencies for Seismic and High Wind Loads Superseded by ETL 03-2	7 Aug 97
97-14	Procedures for Airfield Pavement Condition Index Surveys 270-05/06	Superseded by UFCs 3-270-05/06 15 Sep 97
97-16	Pavement Marking Systems for Low Temperature Applications	25 Nov 97
97-17	Paint and Rubber Removal from Roadway and Airfield Pavements	1 Dec 97
97-18	Guide Specification for Airfield and Roadway Marking	5 Dec 97
97-22	Competing Facility Keying Systems	5 Dec 97
98-1	Design Criteria for Aggregate Surfaced Helicopter Slide Areas and Heliports	14 Jan 98
98-2	Clean Air Act Amendments Requirements for Electric Generators and Power Plants Canceled	1 Jun 98
98-4	Building Manager Energy Conservation Handbook	16 Jan 98
98-5	C-130 and C-17 Contingency and Training Airfield Dimensional Criteria by ETL 04-7	Superseded 19 Oct 98
98-7	Fire Protection Engineering Criteria – New Aircraft Facilities	Superseded by ETL 01-2 29 Apr 98
98-8	Fire Protection Engineering Criteria –Existing Aircraft Facilities	25 Jun 98
98-10	Installation and Operation Guide for the Stanley Hydraulic Power Unit (HPU) (MAAS Upgrade)	5 Nov 98
99-1	Treatment and Disposal of Aircraft Washwater Effluent	7 Jan 99
99-4	Fire Protection Engineering Criteria -Emergency Lighting and Marking of Exits	9 Nov 99
99-6	Programming Fuels Projects	Superseded by ETL 01-15 10 Dec 99

99-7	Airfield Pavement Condition Index Survey	Superseded by ETL 02-13	27 Sep 99
00-1	EPA Guideline Items in Construction and Other Engineering Specifications		5 Jan 00
00-2	Inspection and Testing of Trim Pad Anchoring Systems		1 Feb 00
00-5	Seismic Design for Buildings and Other Structures	Canceled	5 Jun 00
00-4	Small Arms Range Design and Construction	Superseded by ETL 01-13	
00-6	Air Force Carpet Standard	Superseded by ETL 03-3	11 May 00
00-7	Fire Protection Engr Criteria-Correlation of US and Host Nation Codes/Criteria		10 May 00
00-8	Airfield Pavement Design Criteria	Superseded by UFC 3-260-02	28 Apr 00
00-9	Airblast Protection Retrofit for Unreinforced Concrete Masonry Walls		8 Aug 00
00-12	Fire Protection Engineering Criteria - Conversion of Fire Alarm Radio Systems to Narrowband Technology	Superseded by ETL 03-5	19 Dec 00
01-1	Reliability and Maintainability (R&M) Design Checklist		11 Oct 01
01-2	Fire Protection Engineering Criteria – New Aircraft Facilities	Superseded by ETL 02-15	1 Apr 01
01-4	Fire Protection Engineering Criteria -Protective and Hardened Aircraft Shelters		31 Dec 01
01-5	Jet Engine Thrust Standoff Requirements for Airfield Asphalt Edge Pavements	Superseded by ETL 07-3	24 May 01
01-6	Contingency Airfield Pavement Specifications		12 Jun 01
01-7	Large Aggregate Asphalt Mixtures		5 Jun 01
01-8	Resin Modified Pavement Design and Application Criteria		25 Sep 01
01-9	Procedures to Retard Reflective Cracking		17 Jul 01
01-10	Design and Construction of High-Capacity Trim Pad Anchoring Systems		24 Jul 02
01-13	Small Arms Range Design and Construction	Superseded by ETL 02-11	31 Dec 01
01-15	Programming Fuels Projects	Canceled	5 Jun 01

01-17	Communications and Information Systems Criteria for AF Facilities	Superseded by ETL 02-12 Draft	
01-18	Fire Protection Engineering Criteria –Electronic Equipment Installations		24 Oct 01
01-20	Guidelines for Airfield Frangibility Zones		29 Nov 01
02-1	Design of Drainage Structures for Heavy Aircraft Loading		1 Aug 02
02-4	Airblast Protection Polymer Retrofit of Unreinforced Concrete Masonry Walls (FOUO)		12 Jun 02
02-5	Guidance for Energy Savings Performance Contracts	Superseded by ETL 04-12	31 Oct 02
02-7	Preventing Concrete Deterioration Under B- 1 Aircraft		7 Aug 02
02-8	Silicone Joint Sealant Specification for Airfield Pavements 5		Sep 02
02-9	Construction Signs		15 May 02
02-10	Airblast Protection Retrofit of Lightweight Manufactured Structures (FOUO)		12 Jun 02
02-11	Small Arms Range Design and Construction	Superseded by ETL 05-5	22 Nov 02
02-12	Communications and Information System Criteria for Air Force Facilities		27 Jun 020
02-13	Pavement Engineering Assessment Standards	Superseded by ETL 04-9	5 Sep 02
02-14	Determining the Need for Runway Rubber Removal	Superseded by ETL 04-10	4 Sep 02
02-15	Fire Protection Engineering Criteria – New Aircraft Facilities		3 Dec 02
02-16	Design, Construction, Maintenance, and Evaluation of the Pegasus Glacial Ice Runway for Heavy Wheeled Aircraft Operations		16 Oct 02
02-17	Use of Non-Potable Water to Replace Potable Water	Superseded by ETL 08-10	25 Oct 02
02-19	Airfield Pavement Evaluation Standards and Procedures		12 Nov 02
03-1	Storm Water Construction Standards		24 Mar 03
03-2	Design Criteria for Prevention of Mold in AF Facilities	Superseded by ETL 04-3	12 Aug 03
03-3	Air Force Carpet Standard	Superseded by ETL 07-4	16 Apr 03
03-4	Alternate Fuels E85 and B20		21 Oct 03

03-5	Converting Civil Engineering Radio Frequency Devices to Narrowband Technology	21 Oct 03
03-8	Rejuvenation of Hot-Mix Asphalt (HMA) Pavements	19 Dec 03
04-2	Standard Airfield Pavement Marking Schemes	19 Jul 04
04-3	Design Criteria for Prevention of Mold in Air Force Facilities	6 Apr 04
04-4	Trenchless Technology (TT) for Crossing Air Force Pavements	31 Mar 04
04-5	Design Recommendations for Potable Water System Security (FOUO)	20 Aug 04
04-6	Inspection of Drainage Systems	8 Jan 04
04-7	C-130 and C-17 Landing Zone (LZ) Dimensional, Marking, and Lighting Criteria	29 Mar 04
04-8	Stone Matrix Asphalt (SMA) for Air Force Pavements Superseded by UFGS 32 13 17	9 Jan 04
04-9	Pavement Engineering Assessment (EA) Standards	29 Apr 04
04-10	Determining the Need for Runway Rubber Removal	12 May 04
04-11	Recommendations for Incorporating Water System Emergency Response Plan (ERP) Requirements (FOUO)	18 Oct 04
04-12	Energy Savings Performance Contracts (ESPC) Superseded by ETL 06-8	13 Oct 04
04-15	Electrical Safety Guidance Superseded by UFC 3-560-01	30 Sep 04
05-1	Use of Acrylic Diffusers with Metal Halide Fixtures	5 Feb 05
05-2	Design, Construction, Maintenance, and Evaluation of the McMurdo Sound Sea Ice Runway for Heavy Wheeled Aircraft Operations Superseded by ETL 06-7	6 Jun 05
05-5	Small Arms Range Design and Construction Superseded by ETL 06-11	8 Nov 05
05-8	Use of Off-the-Shelf Concrete Admixtures as Cold Weather Admixture System	4 Nov 05
06-1	Arc Flash Personal Protective Equipment (PPE) Requirements for High-Voltage Overhead Line Work at 69 kV (nominal) or Less Superseded by ETL 06-9	5 Jan 06
06-2	Alkali-Aggregate Reaction in Portland Cement Concrete (PCC) Airfield Pavements	9 Feb 06
06-4	Expedient Trim Pad Anchoring Systems	8 May 06

06-6	Interim Swaged End Inspection Criteria for Aircraft Arresting System (AAS) Pendants	16 Jun 06
06-7	Design, Construction, Maintenance, and Evaluation of the McMurdo Sound Sea Ice Runway for Heavy Wheeled Aircraft Operations Superseded by ETL 07-12 1	9 Jul 06
06-8	Energy Savings Performance Contracts (ESPC) Superseded by ETL 08-5	19 Sep 06
06-9	Arc Flash Personal Protective Equipment (PPE) Requirements for High-Voltage Overhead Line Work at 69 kV (nominal) or Less	15 Aug 06
06-11	Small Arms Range Design and Construction Superseded by ETL 08-11	28 Nov 06
07-1	Design Criteria for Underground Electrical Distribution Systems Using Directional Boring (DB) Installation Methods for Installing High Density Polyethylene Electrical Conduit	9 Feb 07
07-2	Anchoring a Fiberglass Mat Assembly in Asphalt Concrete (AC) Pavement	19 Dec 07
07-3	Jet Engine Thrust Standoff Requirements for Airfield Asphalt Edge Pavements	14 Feb 07
07-4	Air Force Carpet Standard	28 Mar 07
07-5	Bridge Inspections	18 Apr 07
07-6	Risk Assessment Procedure for Recycling Portland Cement Concrete (PCC) Suffering from Alkali-Silica Reaction (ASR) in Airfield Pavement Structures	14 Aug 07
07-7	Compact Fluorescent Lamp (CFL) Applications (FOUO)	6 Nov 07
07-8	Spall Repair of Portland Cement Concrete (PCC) Airfield Pavements in Expeditionary Environments	27 Jul 07
07-10	Evaluation and Restoration of Folded Fiberglass Mats (FFM)	19 Dec 07
07-11	Evaluation of Aged Asphalt Concrete Surfaces Superseded by ETL 08-1	5 Sep 07
07-12	Design, Construction, Maintenance, and Evaluation of the McMurdo Sound Sea Ice Runway for Heavy Wheeled Aircraft Operations	24 Sep 07
08-1	Evaluation Criteria for Aged Asphalt Concrete (AC) Surfaces	8 Feb 08
08-2	Testing Protocol for Rigid Spall Repair Materials	30 Jan 08
08-3	Crater Repair Methods Using Rapid-Setting (RS) Materials (FOUO)	4 Apr 08

08-4	Testing Protocol for Polymeric Spall Repair Materials	10 Apr 08
08-5	Energy Savings Performance Contracts (ESPC)	14 Apr 08
08-6	Design of Surface Drainage Facilities	5 Feb 08
08-10	Alternative Water Sources - Use of Non-Potable Water	10 Jul 08
08-11	Small Arms Range Design and Construction	20 Oct 08
08-13	Incorporating Sustainable Design and Development (SDD) and Facility Energy Attributes in the Air Force Construction Program	14 Sep 08
08-14	Structural Evaluation Procedure for Stabilized Soil-Surfaced Airfields	28 Aug 08
08-15	Utilities Privatization (UP) Service Contract Post-Award Management 1	14 Sep 08
