Department of the Air Force
HQ AEDC (AFMC)
Arnold AFB, TN 37389

Safety, Health, and Environmental Standard

Title: **USER AND SUBCONTRACTOR SAFETY**

Standard No.: A6

Effective Date: 03/10/2009

Releasability: There are no releasability restrictions on this publication.

The provisions and requirements of this standard are mandatory for use by all personnel engaged in work tasks necessary to fulfill the AEDC mission. Please contact your safety, industrial health and/or environmental representative for clarification or questions regarding this standard.

Approved:

Contractor/ATA Director
Safety and Health Group

Air Force Functional Chief

Record of Review/Revision

(Current revisions are highlighted in yellow and marked with a vertical line in the right margin.)

Date/POC	Description
04/26/13	Added NFAC supplement; no other change.
03/09/09 F. Kelly	Annual review; no change at this time.
03/31/08 F. Kelly	Annual review: Removed Appendix C (Form GC-1791 *AEDC Subcontractor Daily Checklist)*to the annex and deleted all references to it; modified paragraph 4.1.4 to require outside contractors to complete Form GC 1707 Job Safety Analysis (or equivalent). As a deletion, removal of Appendix C could not be highlighted.
08/29/07 F. Kelly	Annual review; minor administrative changes only (rearranged some bullets in the supplement).
09/05/06 Rollins, Lavelle, Peters	General revision, editing and reformatting; review entire standard. Major changes include clarified and expanded definitions, added responsibilities for design engineering (section 4.2.1) and SHG (section 4.2.5), and revised other organization's responsibilities throughout; reworked Supplement 1 *Outside Contractor Safety Program*: updated PPE and Scaffolding Requirements in Appendix A, added Appendix B Form GC-1792 AEDC *Contactor/Subcontractor Pre-Job Checklist* and Appendix C Form GC-1791 *AEDC Subcontractor Daily Checklist.*
07/01/05 Rollins	Reviewed; made administrative changes throughout for consistency (i.e., project monitor vs contract monitor)
01/30/05 Rollins	Revised PKP/AEDC Contractor Purchasing, Security, and Subcontractor Responsibilities. Replaced "Work Clearance" with "Master Work Permit" Revised Hardhat Requirements and Personnel Transportation in Appendix A; added "uncontrolled copy" statement.
09/26/02	Emergency notification telephone numbers changed. Responsibility language change.

Safety, Health, and Environmental Standard

USER AND SUBCONTRACTOR SAFETY

1.0 INTRODUCTION/SCOPE/APPLICABILITY

This standard has two purposes:

1.1 To provide guidelines to be used by management when selecting subcontractors,

1.2 To outline responsibilities to ensure that AEDC users and subcontractors comply with safety, health and environmental requirements specified in their contract/agreement, including requirements unique to AEDC.

2.0 BASIC HAZARDS/HUMAN FACTORS

Work at AEDC is normally neither more nor less hazardous than similar work in any industrial setting. However, there are some peculiar hazards to the operation and maintenance of an aeropropulsion testing and development facility. Accordingly, some rules and precautions take on greater importance due to the nature of testing activities.

3.0 DEFINITIONS

AEDC Contractor — A long-term contractor directly accountable to the Air Force for the AEDC mission.

Contractor Safety and Health — The Safety and Health Group (SHG) operating under the AEDC Operation, Maintenance, Information Management, and Support contract.

Master Work Permit (MWP) — A document (Form GC-1732), which when properly completed and signed by both the Issuing Official and the Party Performing the Work /Craft Supervisor/Assignee completes all levels of coordination to conduct work, authorizes performance of work as specified on the MWP and ensures protection for concerned personnel and equipment. A deviation to the work described on the MWP requires coordination with the Issuing Official. (See Safety Standard B1 Master Work Permit for specific MWP requirements.)

Project Manager — A person designated to ensure work is accomplished by the subcontractor and meets the specifications of the contract. The project manager (sometimes referred to as the "construction monitor" also performs as liaison between the subcontractor and AEDC contractors. The project manager works closely with the program manager who coordinates a group of related projects.

Subcontractor — An organization employed by a contractor or the Air Force to do construction, maintenance, repair or other work at AEDC. There is no employment relationship, control or supervision of the subcontractor's employees by AEDC contractors. Also referred to as the construction contractor.

User — An outside organization, including its employees, engaging in testing or research work at AEDC. There is no employment relationship, control or supervision of the user's employees by AEDC contractors. However, unsafe work practices and hazardous conditions will be identified and brought to the attention of both the user and the USAF if observed by contractor personnel.

4.0 REQUIREMENTS/RESPONSIBILITIES

4.1 Requirements

4.1.1 Prior to beginning work at AEDC, subcontractors shall provide the Air Force Contracting Officer or the AEDC Contractor Contract Administrator with all mandatory document submittals in accordance with the annex to this standard. These submittals provide documentation that work activities of subcontractors and their employees at AEDC shall comply with the rules and regulations stated in their contract and in the *AEDC Outside Construction Contractor Safety Program*, provided as Supplement 1 to this standard. A written safety and health plan is a required submittal for major projects. Details are provided in the annex along with a sample plan.

4.1.2 Federal Acquisition Regulation (FAR) Clause 52.236-13, Accident Prevention, applies to all construction activities. This clause is applicable where imminent-danger situations exist or where significant damage to equipment or property could occur if the operation continued. When a notice to stop work is issued under imminent danger conditions, only those areas of the construction project immediately involved in the hazardous situation will be included within the order. If contractor personnel are involved in an imminent-danger situation, the project manager, or any AEDC safety representative must immediately notify the Contracting Officer who will issue the formal stop-work notice in accordance with the aforementioned clause. AEDC may investigate any practice or situation that prompted the issuance of an imminent-danger stop work order.

The user or subcontractor shall be responsible for making any and all modifications and establishing work controls without cost to the government and shall use industrial safe work practices and procedures set forth in the Statement of Work (SOW) [or Performance Work Statement (PWS)], the contract, or in other federal, state, or Air Force guidance as applicable. A stop-work order issued under authority of imminent danger differs from a suspension-of-work issued under authority of FAR Clause 52.212-12, Suspension of Work. *The contractor is not entitled to any equitable adjustment for a valid stop-work notice issued under the authority of FAR Clause 52.236-13. At no time shall lives be placed in jeopardy while conducting operations.*

NOTE: If personnel are involved in any condition that is immediately dangerous to life and health (IDLH), any observer who recognizes the hazard may advise of the unsafe practice and request corrective action (i.e., worker needs fall protection). The project manager, AEDC/SE, or SHG shall be immediately notified for follow-up action. Incidental observations (i.e., forgot hard hat) may be corrected on the spot and do not require notification to the project manager or safety.

4.1.3 Subcontractors and their employees performing construction or service contracts with the U S Air Force or AEDC support contractors shall complete AEDC Outside Contractor Orientation before performing work on AEDC. Users who make adjustments to, or perform work using, AEDC systems or equipment shall also complete this orientation.

4.1.4 Contractors shall ensure completion of Form GC-1792 AEDC Contractor/Subcontractor Pre-Job Checklist prior to the start of the contract/job (Annex, Supplement 1, Appendix B) and Form GC-1707 Job Safety Analysis (or equivalent document) prior to the start of work each day. A log of all checklists will be kept for the duration of the contract/job and will be readily available for audit by AEDC contracting personnel, project managers, and safety personnel.

4.2 Responsibilities

4.2.1 Design Engineering Responsibilities

NOTE: These responsibilities and requirements shall be applicable to design efforts contracted to other agencies.

4.2.1.1 Ensure general contract requirements include compliance with 29 CFR 1910 and 1926.

4.2.1.2 Ensure general contract requirements include the mandatory use of Hard Hats, Safety Glasses and Hard Toe shoes within the AEDC Industrial Complex.

4.2.2 AEDC/PKP and/or Contractor Purchasing Responsibilities

NOTE: The Contracting Officer shall verify that all items – including attachments such as standards, instructions, and submittal requirements – in the specification are presented to the subcontractor. *Failure to include applicable standards and instructions could result in a contract modification and subsequent increase in cost.*

4.2.2.1 Ensure that a copy of this standard (AEDC SHE A6, User and Subcontractor Safety) and all other applicable SHE standards, instructions, and submittal requirements related to the contract are presented to the subcontractor.

NOTE: Failure to include applicable standards and instructions could result in a contract modification and subsequent increase in cost.

4.2.2.2 Conduct pre-performance/construction briefings upon contract award for contracts in excess of $10,000.

4.2.2.3 Verify contracts contain the requirement that all subcontractors and their employees complete the AEDC Outside Contractor Orientation program before starting work at AEDC.

4.2.2.4 Ensure compliance with all applicable requirements set forth in the annex to this standard.

4.2.3 Security Responsibilities

4.2.3.1 Notify SHG upon a subcontractor's arrival at Pass and Registration for check-in and badging.

4.2.3.2 Advise subcontractors of location for the contractor orientation.

4.2.4 Project Manager Responsibilities

4.2.4.1 Coordinate any additional need for SHG, security, traffic, or fire indoctrination with the appropriate agency.

4.2.4.2 Coordinate subcontractor work activities with the appropriate area supervisor or building manager.

4.2.4.3 Assist the subcontractor in obtaining necessary work permits as required.

4.2.4.4 Ensure the subcontractor has received a copy of contract documents, to include all attachments and supplementary documentation, and that applicable standards and instructions have been addressed before work starts.

4.2.4.5 Report subcontractor safety violations to SHG by identifying the subcontractor by name, location, and violation. If a violation presents IDLH, takes immediate action to protect personnel and Air Force property.

4.2.4.6 Ensure compliance with all applicable requirements set forth in the annex to this standard.

4.2.5 SHG Responsibilities

4.2.5.1 Provide SHG orientation for subcontractor personnel prior to work being performed at AEDC.

4.2.5.2 Work with the project manager to resolve any safety or industrial hygiene issues that may arise.

4.2.5.3 Periodically monitor the subcontractor job site for compliance with applicable regulatory requirements.

4.2.5.4 Review the documents submitted in accordance with the annex to this standard.

5.0 REFERENCES

29 CFR Part 1926, OSHA Construction Industry Standards
29 CFR Part 1910, OSHA General Industry Standards
AEDC Installation Security Instruction 31-101, Arnold Air Force Base Installation Security Instruction
AEDC Safety, Health, and Environmental Standards (SHE Standards)
AFOSH STD91-501, Air Force Consolidated Occupational Safety Standard
American National Standards Institute (ANSI), as applicable
EM-385-1-1, US Army Corp of Engineers, Safety and Health Requirements Manual
National Electrical Code (NEC-NFPA)
National Fire Protection Association (NFPA) Codes

Attachments:

Annex, Mandatory Documents/Submittals
Supplement 1, AEDC Outside Contractor Safety Program
Supplement 1, Appendix A, Example of Contractor Safety, Health, and Environmental Plan
Supplement 1, Appendix B, Form GC-1792, AEDC Contractor/Subcontractor Pre-Job Checklist

NFAC Supplement:

A321-0801-XSP A6 User and Subcontractor Safety

Annex
Mandatory Documents/Submittals

The following documents are required to be submitted to the Air Force Contracting Officer or AEDC Contractor Contract Administrator for approval or information, as indicated below, prior to work being performed. Contract Administration will ensure that submittal items requiring approval are approved, in writing, by the Air Force or Contractor Safety Office and returned to the subcontractor before beginning work specified in a contract.

1. **Subcontractor's Safety, Health, and Environmental Plan** to include a fall protection plan, excavation protection plan, confined space and lockout/tagout plans or procedures and personnel training policies	Approval
2. **Hazard Communication Plan**	Information
3. **Material Safety Data Sheets** (MSDSs) Each MSDS must contain: a. Identity of the product b. Manufacturer's name and address c. Amount of material to be stored on site d. Location of Material Safety Data Sheets e. Subcontractor's company or business name f. Point of contact on the job g. Location of contract site In addition, any subcontractor generating hazardous waste must coordinate with the Hazardous Waste Operations Group, 454-4310, before the generation of the waste.	Approval
4. **Accident Reports and Investigations**	Information
5. **Building Demolition Plan** as accomplished by a registered professional engineer (when required)	As Requested
6. **Certificates of Training** for personnel removing or disposing of hazardous waste	Information
7. **Fall Protection Systems Shop Drawings**	Information
8. **Job Safety Analysis**	Information
9. **Load Testing Data/Certification**	Information
10. **OSHA/TOSHA Inspections and Citations** within the past five years	Information
11. **Procedures and Job Safety Analyses** for all high risk tasks	Approval
12. **Procedures for Disposal of Waste, Scrap and Excess Materials** (when required)	Approval
13. **Procedures for Work Involving Transportation or Disposal of Hazardous Waste**	Approval
14. **Shoring Systems Shop Drawings**	Information
15. **Soil Analysis Data for Excavations** (when required)	Information
16. **Toolbox Safety Meeting Minutes**	Information
17. **Training Records of Personnel Required to Wear Respirators**	Information
18. **Wastewater Discharge Request** **NOTE:** Contact Water Quality, 454-3625, to obtain request forms before discharging wastewater to surface waters or to land.	Approval
19. **Work Procedure**	As requested
20. **Sketches of Detour Areas** (when required)	As requested

AEDC OUTSIDE CONTRACTOR SAFETY PROGRAM

Supplement 1 to AEDC Safety, Health, and Environmental Standard A6

April 2008

OUTSIDE CONTRACTOR SAFETY PROGRAM

Contents

AEDC OUTSIDE CONSTRUCTION CONTRACTOR SAFETY PROGRAM

Supplement to AEDC Safety, Health, and Environmental Standard A6,
User and Subcontractor Safety)

1.0 INTRODUCTION

This supplement describes the Arnold Engineering and Development Center (AEDC) Outside Contractor Safety Program. Contractors shall conduct their activities in a manner acceptable to AEDC and in accordance with the prescribed standards listed in the contract.

2.0 RESPONSIBILITIES

2.1 Construction Projects

The Air Force and/or the AEDC Operation, Maintenance, Information Management, and Support Contractor (AEDC Contractor) will supervise the construction phase of most AEDC construction projects. An Air Force or AEDC project manager will be assigned to each new project and will be responsible for ensuring that the contractor fulfills contract responsibilities.

2.2 Construction Contractors

Contractors shall be responsible for the safety of their personnel and for fulfilling other obligations specified by the contract. Contractor superintendents shall be responsible for eliminating hazardous conditions, monitoring their personnel for safe work practices, providing safe equipment, conducting safety meetings and training, and providing safety reports as required by the contract or as requested by the project manager. Employees shall be made aware of workplace hazards and be encouraged to promptly report any unsafe conditions to their contractor superintendent.

2.3 Construction or Specialty Subcontractors

On projects where the general construction (prime) contractor has sub-contracted portions of work to other construction or specialty contractors, it shall be the responsibility of the general construction contractor to ensure that any subcontractor shall be made aware of and adhere to the responsibilities specified in the Section 2.2 of this supplement. The general construction contractor shall consider the type work being done when completing the contractor safety plan or contractor/subcontractor pre-job checklist.

2.4 Safety Plans

A written safety plan shall be required for major projects. This plan shall include but not be limited to the following:

- Projects that cost over $250,000.
- Projects that have a potential for permanent disabling injuries or result in equipment or property damage of $10,000 or greater.
- Projects that involve demolition of major structures.

Appendixes A and B to this supplement provide a sample safety plan and pre-job checklist. These samples are generic in nature, cover areas common in most efforts, and are not all-inclusive. The submitted safety plan and/or checklist shall cover safety, accident prevention, and fire protection areas that affect the work to be accomplished.

Each safety plan shall reflect the type of construction safety required. Each contractor shall prepare the safety plan with concern for Occupational Safety and Health Administration (OSHA) requirements and good safety practices. Before the execution phase of the project, SHG will

determine the required level of safety programming. Before work begins, the safety plan or checklist must be reviewed and accepted by SHG, Air Force Safety, or the project manager. Unacceptable plans will be returned to the contractor for rework.

NOTE: Minor projects (those that do not fall within the restrictions specified above) may satisfy this requirement by submitting a pre-job checklist.

2.5 Prescribed Standards

Contractors shall be responsible for maintaining a safe workplace in accordance with all requirements of the prescribed standards listed in the contract. Where differences exist between prescribed standards and codes, the one affording the greatest protection shall govern.

2.6 General Requirements

These following requirements are of special importance and shall be coordinated with the project manager. Contractors shall:

- Post emergency information at each site (or at a central location).
  NOTE: AEDC emergency services may be reached by dialing AEDC extension 911. Cell phone users may also dial 911.
- Provide orientation and training of employees in accordance with OSHA safety training and education (29 CFR 1926.21).
- Comply with OSHA housekeeping requirements (29 CFR 1926.25).
- Comply with OSHA signs and tag requirements (29 CFR 1926.200).
- Ensure use of OSHA-required personal protective equipment (29 CFR 1926.28).
- Provide ground-fault circuit interrupters on all single-phase 15- and 20-ampere receptacle outlets on all construction sites or institute and document an assured grounding program (29 CFR 1926.404).
- Accomplish locking and tagging in accordance with AEDC Safety, Health, and Environmental (SHE) Standard B2, Lockout/Tagout – (LOTO).
  NOTE: Contractors shall observe LOTO measures put in place by AEDC personnel when applicable.
- Provide all employees with fall protection devices in accordance with 29 CFR 1926.104 and AEDC SHE Standard F6, Fall/Restraint Protection.
- Ensure employees have access to Material Safety Data Sheets (MSDSs) for all hazardous materials on the job site along with a copy of their employer's written Hazard Communication Program.

2.7 Open Trench Barriers

Groups engaged in construction and maintenance work requiring open trenches or excavations shall provide protection for pedestrians, bicyclists, and motor vehicles. Where possible, these areas shall be backfilled immediately or provided with a continuous covering. Where this is not possible, barriers shall be provided to warn personnel of the danger areas. (See SHE Standard B3, Control of Hazardous Areas, and B10, Safety Signs and Markers.) Construction personnel shall become aware of traffic patterns and provide alternate walkways adjacent to occupied buildings, main thoroughfares, intersections, and other recognized locations where pedestrian traffic occurs.

A construction barrier must meet the following criteria:

- Type II barricades, as defined in American National Standards Institute (ANSI) Standard D-6.1, shall be positioned at 10-foot intervals on each side of the trench. Spacing on each side of the trench should alternate to show barricades at 5-foot intervals.
- Each barricade should be positioned at least 2 feet away from the opening.
- Each barricade that will be in place during darkness shall be equipped with a yellow flasher at least 8 inches in diameter. Flashers shall be directed toward the outside of the excavation or perpendicular to the path of expected travel.
- Where continuous solid barriers are not provided, interconnecting ropes or approved barricade tape shall be used.
- If required, crossing points shall be identified in construction drawings and sketches. Walkways and bridges equipped with standard guard rails (or equivalent) shall be provided. Adequate lighting shall be furnished at the crossing points.
- Wherever vehicular traffic will cross trenching operations, metal plate coverings shall be installed to support the traffic.

2.8 Excavation and Trench Shoring

Trench shoring shall conform to OSHA 29 CFR 1926, Subpart P, Excavations.

Before beginning any excavation that is 5 feet deep or more, the contractor shall submit to the project manager a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made to protect workers from the hazard of caving ground during the excavation. The proposed plan shall comply with OSHA Construction Safety Standards (29 CFR 1926). If the detailed plan varies from such shoring system standards, it shall be prepared by a registered civil or structural engineer whose name and registration number shall be indicated on the drawing.

If a dispute arises as to whether the plan shall be prepared by a registered civil or structural engineer, AEDC's determination of the matter will be final.

The review or approval of any plan showing the design of shoring, bracing, sloping, or other provisions for worker protection shall not relieve contractors from their obligation to comply with 29 CFR 1926 for the design and construction of such protective work.

2.9 Confined Spaces

If a contractor employee is to enter a confined space (such as a tank, vault, hold, manhole, or ducting), entry shall be in accordance with AEDC SHE Standard B5, Confined Spaces. The project manager shall be notified at least of one full working day (24 hours) prior to entry.

The project manager will assist the contractor in securing the entry procedure or permit to provide safe entry. (Permits may be obtained from the custodian of the confined space.) Contractors are responsible for training and obtaining certification of confined space entrants and attendants as required by 29 CFR 1910.146.

Contractors will provide the appropriate atmospheric monitoring equipment for entering confined spaces.

2.10 Fire Safety

The contractor shall obtain a USAF Welding, Cutting, and Brazing Permit (AF Form 592) from the AEDC Fire Department for hot work operations. This includes cutting, welding, brazing, soldering, grinding, thermal spraying, and any similar activities. Such operations shall not start until the permit has been posted.

2.11 Work Clearances

Use of Form GC-1732, Master Work Permit (MWP) (see AEDC Safety Standard B1) shall be coordinated with the area Master Work Permit Issuing Official before the start of any work. The project manager will assist the contractor in obtaining the MWP. If one or more of the items in Section II of the MWP are checked, coordination with the appropriate approval authority shall be made before any work begins.

2.12 Electrical Utilities

When construction activities involve installing new or remodeled electrical utilities, the contractor shall contact the project manager to arrange for a utility outage before these utilities are tied into existing AEDC utilities. AEDC Power Control will identify the circuits and circuit breakers involved. The contractor representative may then open those circuit breakers that are 600 volts or less and secure them in accordance with AEDC SHE Standard B2, Lockout/Tagout, before the tie-in is made. Circuit breakers for AEDC facilities that control circuits over 600 volts may only be opened, locked out, tagged, and grounded by AEDC personnel in accordance with SHE Standard B4, High Voltage Electrical Work. When new utilities are ready to be energized, AEDC personnel will visually inspect and test all electrical equipment that generates at a potential exceeding 600 volts before it is placed in service. The contractor shall join with the project manager to witness this switching and grounding work.

Where new construction projects adjoin, or are associated with, AEDC controlled utilities but do not affect AEDC personnel or activities, the project manager may request Power Control to lockout and tag certain sources of power (electrical and mechanical) for the safety of contractor personnel. All branch circuits must be properly identified and safely terminated so as not to cause an electrical shock hazard. The contractor must coordinate lockout/tagout procedures with the project manager to ensure those procedures are compatible with AEDC requirements. Construction contractors shall observe AEDC's lockout/tagout program.

2.13 Working with Ionizing Radiation

When a contractor brings an ionizing radiation source on site or when contractor employees work in designated radiation areas, the contractor shall notify SHG one working day (24 hours) before the start of the job.

All ionizing radiation radiography work shall comply with State of Tennessee Regulations for Protection against Radiation regarding radiation control regulations.

When contractor personnel are asked to work in designated radiation areas, the AEDC contractor will provide a pre-performance briefing regarding radiation safety requirements.

2.14 Hazardous Materials

A list of hazardous materials used on the job site shall be provided to the project manger before receipt of materials on any AEDC job site. MSDSs for all hazardous materials on site must be readily accessible. Employees shall be trained in hazards associated with these materials.

3.0 IMMINENT DANGER PROCEDURES

Federal Acquisition Regulation (FAR) Clause 52.236-13, Accident Prevention, applies to all construction activities. This clause is applicable where imminent-danger situations exist or where significant damage to equipment or property could occur if the operation continued. When a notice to stop work is issued under imminent danger conditions, only those areas of the construction project immediately involved in the hazardous situation will be included within the order. If contractor personnel are involved in an imminent-danger situation, the project manager, or any AEDC safety representative must immediately notify the Contracting Officer who will

issue the formal stop-work notice in accordance with the aforementioned clause. AEDC may investigate any practice or situation that prompted the issuance of an imminent-danger stop work order.

A stop-work order issued under the authority of imminent danger differs from a suspension-of-work issued under the authority of FAR Clause 52.212-12, Suspension of Work. The contractor is not entitled to any equitable adjustment for a valid stop-work notice issued under the authority of FAR Clause 52.236-13.

NOTE: If personnel are involved in any condition that is immediately dangerous to life and health (IDLH), any observer who recognizes the hazard may advise of the unsafe practice and request corrective action (i.e., worker needs fall protection). The project manager, AEDC/SE, or SHG shall be immediately notified for follow-up action. Incidental observations (i.e., forgot hard hat) may be corrected on the spot and without notification to the project manager or safety.

4.0 ACCIDENTS (MISHAPS)

4.1 Emergency Assistance

Contractors are responsible for providing first aid and medical assistance if their employees are injured or become ill. If emergency assistance or transportation is required because of the severity of the injury or illness, AEDC ambulance and emergency response personnel may be called. All mishaps shall be reported to the project manager within one working day (24 hours).

4.2 Mishap Notification

The contractor shall notify the contracting officer or project manager immediately if a mishap occurs that involves:

- A fatality or possible fatality.
- An injury or illness that may produce permanent or prolonged disablement.
- Injury or illness to several employees in the same mishap.
- Anything that could cause concern to AEDC employees or the public or that could have a significant impact on the environment.

The contractor shall cease all work at the site of the mishap until the project manager and safety representative jointly provide additional instructions.

The site of an accident involving serious injury or fatality shall be isolated and access controlled until the area is released by either Air Force Safety or SHG. The area shall remain intact until a mishap investigation has been completed.

4.3 Mishap Investigation

The contracting officer, Air Force Safety (AEDC/SE), and SHG will jointly determine the extent of the mishap and the mechanism for handling any required investigation in accordance with SHE Standard A2, Mishap Investigations.

5.0 TRAFFIC SAFETY

AEDC traffic rules and regulations for the most part follow the Tennessee Laws relating to motor vehicles. In addition, DoD has specific guidance regarding the operation of motorcycles on DoD installations; this includes the wearing of personal protective equipment. Some unique vehicle operations regulations pertaining to AEDC and the U.S. Air Force follow:

5.1 Safety Restraint Systems

Seat belts are required to be used by all vehicle operators and passengers where installed. This includes the rear seats of automobiles. Also, all construction and earth-moving vehicles and equipment that have roll-over protective systems must be equipped with seat belts.

5.2 Crosswalks

Vehicle operators are required to stop for pedestrians in crosswalks. Pedestrians are not to enter a crosswalk on the side of the street where a vehicle is approaching if the vehicle does not have time or distance to stop safely.

5.3 Traffic Control

Sketches for construction of detours shall be indicated on drawings and submitted to the AEDC project manager for approval. Personnel are directed to become familiar with these details.

5.4 Signage

Required safety, fire, instructional, and traffic signs shall be prominently posted and obeyed. These signs shall remain in place until no longer required and removal is approved by the project manager.

5.5 Flagging Personnel

All traffic flagging personnel shall wear blaze orange vests. Such personnel shall be trained in proper visual signal usage as required by ANSI C.6-1.9.

5.6 Passengers

Passengers shall only ride vehicles/equipment with original equipment manufacturer seat/ position that has been design for passengers. Passengers shall not be transported in the bed of pickup trucks, stake/ flat bed trucks, the bed of dump trucks and/or the cargo area of vans, tractor trailers or trailers nor shall they be transported on/or in forklifts, loaders, bulldozers or any other type of construction equipment.

5.7 Animals

Personnel shall be alert for deer and other animals, including wild fowl, when operating vehicles within the AEDC reservation.

5.8 Speed Limits

AEDC speed limits are 35 MPH within the fenced area unless posted otherwise. The speed limit within any parking lot is 10 MPH unless posted otherwise. The speed limit in Arnold Village (military family housing) is 20 MPH.

6.0 WASTE DISPOSAL

6.1 Solid Waste

Dumpsters shall be provided for solid waste and garbage. These containers shall be emptied into a sanitary landfill. No free liquids or Resource Conservation and Recovery Act (RCRA) Subtitle C hazardous wastes shall be allowed. Such containers shall be used for garbage, trash, food wastes, and other types of household waste. If these become full, they may be emptied on request with advance notice. Otherwise, they shall be emptied on a routine schedule.

The landfill near the airfield along Sixth Street/Avenue J has been permitted by the Tennessee Department of Environment and Conservation as a Class IV Disposal Facility for inert construction/ demolition wastes. No sanitary garbage shall be placed into this area and no free liquids are allowed. RCRA hazardous waste is forbidden.

6.2 Hazardous Wastes

All wastes generated at AEDC that are RCRA Subtitle C hazardous shall be processed through the AEDC system. The individual generator shall be responsible for identifying his waste, segregating it from other wastes, and placing it into the proper container. Instructions will be provided for proper labeling of the containers and processing the required paperwork that must accompany each container. The generator shall be responsible for complying with these instructions, for transport of each container to the assigned accumulation point, and for coordination with the accumulation point manager. It is highly recommended that each generator contact the appropriate environmental office (Air Force or AEDC Contractor) before generating waste.

6.3 Wastewater

Sewage Treatment Plant (STP): The STP is designed solely for domestic sewage. Nothing else shall be discharged into the sanitary sewer system without written advance authorization from Water Quality Management. The authorization will include any pre-treatment necessary before discharge into the sanitary sewer system.

Storm water: Measures shall be used to minimize run-off. Nothing other than rain shall be discharged into drainage ditches without authorization from the Water Quality Management section. Measures shall be actively taken to minimize erosion and maintain stream quality. Construction activities that disturb one acre or more of ground are subject to TDEC's storm water regulations. Requirements of this regulation include: submission of a Notice of Intent, development and submission of a Storm Water Pollution Prevention Plan, payment of fees, installation of storm water protection measures, etc. If the construction will disturb more than five acres of ground, then the plan must be certified by a Professional Engineer.

6.4 Spills

All spills shall be reported to the Operations Center, AEDC extension 7752 or 7688, either directly or through the project manager. If the spill is beyond the capability of immediate cleanup, assistance can be obtained via the Operations Center. A spill is defined as a material that escapes its designed containment and enters into the environment, either through the air, surface water, ground water, or soil.

APPENDIX A

EXAMPLE OF

CONTRACTOR

SAFETY, HEATH, AND ENVIRONMENTAL PLAN

FOR

CONTRACT NO. _____

SAFETY, HEALTH, AND ENVIRONMENTAL PLAN

Contents

SAFETY, HEALTH, AND ENVIRONMENTAL PLAN

1.0 POLICY STATEMENT

A safe and healthful working environment is provided for all personnel through proper training, inspection, guidance, and adherence to codes and standards. All work is done in a safe manner. Safety, health, and environmental (SHE) protection is a management responsibility. To prevent injuries, illnesses, accidental fires, environmental impact, and property damage, all supervisory personnel must demonstrate the ability to recognize hazards and take necessary steps to eliminate existing and potential hazards. All supervisors and employees must perform their duties in compliance with required safety, health, and environmental codes and standards.

2.0 PURPOSE

This plan has been compiled to ensure all personnel working on the project are thoroughly aware of the need to eliminate all possible causes of accidents.

3.0 SAFETY RESPONSIBILITIES

SHE protection is the responsibility of management. (Name) _____ (Title) _____ is designated on-site safety representative for (Company or Firm Name) _____. He/she is responsible for administering the safety program this (Project Name) _____.

Construction/site supervisors are responsible for continuously checking for and eliminating hazardous conditions. They are responsible for conducting safety meetings and for the ongoing training of personnel. All personnel must be trained to become aware of unsafe conditions an how to correct them. Any unsafe condition must be immediately corrected or referred to management when corrective action is needed. All required SHE equipment, if not provided by the employee, will be supplied by the contractor.

Construction/site supervisors will make daily safety inspections of the entire job. A record of these inspections will be made available at the job site.

Safety statistics will be reported as required by the Department of Labor.

Each employee will be held responsible for performing his or her work in a safe manner. All employees must be ready at all times to correct or report unsafe conditions to their supervisors.

4.0 EMPLOYEE TRAINING

4.1 Bulletin Board

A bulletin board will be prominently placed next to the contractor's site office or as otherwise directed by the project manager. This board will post the following:

- Emergency phone numbers: 911
  (and contractor emergency numbers as appropriate)
- Dates and times of safety meetings
- Required OSHA announcements and bulletins
- Miscellaneous safety posters

4.2 Safety Meetings

Safety meetings will be held daily for all employees. These meetings will be held to educate and train employees and to develop the proper safety attitude in the performance of their jobs. Attendance records will be maintained at the job site.

5.0 MEDICAL SUPPLIES AND ASSISTANCE

5.1 First Aid Stations

First aid station(s) will be maintained in the work areas. First aid equipment will be inspected regularly for completeness.

5.2 Emergency Phone Numbers

As previously stated, the emergency phone number card (provided by SHG during the pre-performance briefing) will be posted on the project bulletin board. In addition, the card should be displayed prominently in work areas and carried in each site supervisor's vehicle.

6.0 CONTROLLING CONSTRUCTION AREAS

Contractors will identify and control access to all construction areas by barricading and posting signage to prevent unauthorized entry, to prescribe required personal protective equipment, and to warn of specific hazards.

7.0 EQUIPMENT SAFETY

7.1 Motor Vehicles

Operators will inspect vehicles daily before beginning work and at the start of each shift, reporting discrepancies (such as malfunctioning brakes or worn tires) to the site supervisor. Defective vehicles will not be used until repairs are made.

Unattended vehicles (to include personal vehicles) must be locked at all times.

7.2 Heavy Equipment

Audible alarms will be installed and maintained on all heavy equipment as specified in OSHA 1926.602. Site supervisors will make daily safety inspections. Operators are responsible for immediately reporting to supervisors any apparent or latent unsafe conditions of the equipment being operated. Job site records will be maintained as required by OSHA 29 CFR 1926, Construction Safety Standards.

7.3 Hand Tools

All hand tools, whether self-owned or company-furnished, will be maintained in safe condition. Unsafe tools will not be used.

Guards required on power tools will be used at all times. Constant-pressure switches or controls will be used on all power hand tools. Switch locking devices will be removed. Power grinders will have protective shields.

Electric tools will be grounded using three-prong plugs and receptacles (except for double-insulated tools). All 15- to 20-ampere receptacle outlets on single-phase circuits for the construction site will be protected by ground-fault circuit interrupters.

All gasoline- or diesel-powered equipment will be stopped during refueling and any time the equipment is left unattended.

8.0 FIRE PREVENTION

8.1 Hot Work Operations

USAF Welding, Cutting, and Brazing Permit (AF Form 592) is required for all hot work operations. Hot work operations include cutting, welding, brazing, soldering, grinding, thermal spraying and any similar activities.

8.2 Smoking

Smoking is permitted only in designated smoking areas. Where smoking is permitted, safe receptacles are provided for smoking materials.

8.3 Electrical Sources

All construction operation electrical wiring and equipment for light, heat, or power purposes will be in accordance with pertinent provisions of NFPA 70, National Electrical Code. Temporary lights will be equipped with guards to prevent accidental contact with the bulb. Temporary lights will not be suspended by their electric cords unless the cords and lights are designed for such suspension. Splices will have insulation equal to that of the cable.

8.4 Fire Reporting

A public fire alarm box and/or telephone service to the AEDC Fire Department will be readily available near the premises. Instructions will be issued to notify the fire department immediately in case of fire.

8.5 Access for Fire Fighting

Access routes for fire-fighting equipment will be maintained. Fire hydrants will be clear of obstructions.

8.6 Fire Extinguishers

Fire extinguishers will be located on or adjacent to:

- Storage sites of combustibles
- Fuel-dispensing vehicles
- Sites of hot work operations
- The supervisor's vehicle
- The supervisor's office or shed

In addition, at least one approved extinguisher will be provided in plain sight on each floor at each usable stairway where combustible material could accumulate. Extinguishers will be placed within structures so that maximum travel distance to an extinguisher is no more than 75 feet.

9.0 SANITATION AND INDUSTRIAL HYGIENE

Sanitation and industrial hygiene will comply with the following:

- Toilet facilities will be provided at the work site.
- Where potable water is not available, potable drinking water and disposable cups will be provided, along with a container for the disposal of used cups. This drinking water will be conveniently placed in the area of the work site.
- Proper ventilation will be maintained to avoid possible harmful buildup in areas where toxic fumes, dust, vapors, or gases may be produced. Respiratory protection will be supplied when adequate ventilation cannot be provided.

10.0 ACCIDENT REPORTING

- Accident reporting must be an individual responsibility. All individuals who are injured must report the accident, however minor, to their immediate supervisor. Supervisors will obtain all pertinent information so that proper forms can be completed. Supervisors will keep an injury log at the job site.
- All vehicular accidents occurring on the AEDC site, regardless of size and nature, injury or non-injury, must be reported immediately to AEDC Security Police (AEDC extension 5662; cellular 931-454-5662).

11.0 GENERAL AND SPECIAL INSTRUCTIONS

11.1 General Instructions

- Employees will comply with this SHE plan, assist other employees in doing so, and report all dangerous conditions or practices immediately to their supervisor.
- All injuries must be reported immediately through the regular chain of supervision. Supervisors will be responsible for making proper reports to the contractor's company office and the project manager.
- Should injuries occur, the first step is always to provide medical care for the injured (emergency care, transport, etc.) and to immediately eliminate any apparent cause of the injury. If a cause is not apparent, the work area and equipment must be secured until the cause is determined by qualified authorities.
- Serious equipment or property damage must be reported promptly to the site supervisor and the project manager.
- No one will be permitted to work while impaired by illness, fatigue, medication, illegal drugs, or other causes.
- Reporting to work under the influence of alcohol, stimulants, tranquilizers, or barbiturates – or using them during work hours – will be cause for termination.
- No guard, safety device, or appliance may be removed from tools, machinery, or equipment except for the purpose of making repairs. Such removal will only be done by persons qualified to make the repair. Repair will only be made when the tool, machinery, or equipment is in a safe area and when all power sources have been locked and tagged out.
- Employees will not handle electrical equipment, machinery, vehicles, or air and water lines in a manner outside the scope of their regular duty except with specific instructions from their supervisors.
- Employees will not enter trenches, ditches, or any other subsurface area without specific instructions from their supervisors.
- Employees will not enter or work in confined spaces (such as tanks, vaults, holds, or manholes) without specific instruction from their supervisors. All confined-space entries will be made in accordance with the provisions of AEDC SHE Standard B5. The project manger must be notified at least one full working day (24 hours) before entry is made.
- Employees who observe sandblasting dust, asbestos fibers, smoke, or other possibly dangerous pollutants in the air of a work space should contact their supervisor for instructions.
- The supervisor will have on site the MSDSs for all chemicals, flammables, solvents, paints, and other hazardous products used on the project.
- While handling hazardous chemicals or solvents, employees will follow directions and comply with warnings or cautions affixed to the labels or specified on the MSDS. Any questions concerning the use of such chemicals and personal protective equipment required will be directed to the supervisor.
- Flammable or combustible solvents will not be used for cleaning purposes without specific instructions from the supervisor. Such instructions will include the specific location and conditions for use.

11.2 Personal Protective Equipment

Personal protective equipment will be worn in compliance with prescribed codes and standards and facility requirements.

- Eye protection must be used by all employees while performing any operation in which a hazard to the eye exists. Examples of such operations are welding, cutting, burning, sandblasting, grinding, hammering, and the use of pneumatic impact tools.
- Hard hats will be worn at all times in construction and industrial areas and as required in all other areas.
- Ear and face protection equipment will be worn as required by appropriate safety standards and facility requirements.
- Footwear will be leather or other substantial work shoes or boots. Safety toe footwear must be used on all construction projects.
- The minimum for clothing shall be short sleeve shirt and long trousers.
- Strong non-slip gloves are recommended for all workers, except when wearing them could create greater risks.
- Respiratory protective equipment will be used when personal exposure exceeds acceptable levels. Respirators will be used in accordance with 29 CFR 1910.134. The subcontractor shall have a written respiratory protection program, fit test records, and employee medical approval.
- If respiratory protection is required, use of respirators must comply with 29 CFR 1910.134.
- Welding shields or goggles will be worn by personnel doing cutting or welding.
- Fall protection equipment will be used when necessary.
- Supervisors are responsible for providing all employees with directions about employer- and employee-provided protective equipment necessary for each operation.
- Non-conductive hard hats and ANSI-approved safety shoes will be worn at all times on the construction site, except in administrative areas.

11.3 Ladders

- No employee may use a ladder that is defective or does not meet ANSI requirements.
- Wooden ladders will not be painted.
- Splicing of ladders is prohibited.
- Work will be arranged so that employees are able to face ladders and use both hands while climbing.
- Use of ladders to transport heavy or awkward-shaped items is prohibited.
- Stepladders must never be used as straight ladders. They must be fully opened at all times except when in storage. Employees will not be allowed to stand on the top step or end cap of stepladder.

11.4 Scaffolding

- All scaffolding will conform to 29 CFR 1926 Subpart L, Scaffolds.
- All site supervisors must be aware of their responsibility for the safety of their personnel when assigning personnel to work on or off scaffolding.
- It is imperative that scaffolds be erected, used, maintained and dismantled under the supervision of a scaffolding competent person and that inspections of all scaffolding be conducted before use each day or at the beginning of each shift if multiple shifts are

used. Written records of such inspections, including the name of the scaffolding competent person, will be maintained.

- If several crafts are using sections of the scaffolding simultaneously, more frequent inspection of scaffolding may be necessary.
- Scaffolding inspection will include, but not be limited to, base plates, sills, bracing, tie-ins, planking, access ladders to working levels, guard rails (handrail, mid-rail, and toe-board), anchorage to building structure, and plumb scaffold.

11.5 Machinery and Vehicles

- Only qualified employees may operate machinery or equipment.
- Only licensed operators will operate vehicles.
- Vehicles and equipment will be adequately secured against accidental or unauthorized starting or movement when not in use. Keys will be removed and doors will be locked when vehicles and equipment are unattended. At the end of each workday, keys will be placed in a secure area designated by the site supervisor.
- Operators must examine their equipment before starting and observe it careful during use, immediately reporting to supervision any malfunction or deviation from safe performance.
- Equipment floors and decks must be kept clean and free of anything that might cause slipping, tripping, or a falling hazard or interfere with safe operation of the equipment.
- The need for servicing or repairs will be reported to the supervisor. No repairs or adjustments will be made on units during operation. No lubrication will be performed on units during operation except those on which the manufacturer has installed safeguards specifically for the protection of the person doing the lubrication.
- Working under suspended loads is forbidden.
- Employees are prohibited from riding booms, loads, slings, hooks, or lift-truck forks or platforms.
- Air hoses must not be disconnected until they are bled and pressure is securely turned off at its source. Use of air hoses will be in accordance with OSHA 29 CFR 1926.302b Pneumatic Power Tools.
- Employees must inspect all backfill areas before starting backfill operations.
- Operators or employees working near units producing noise levels in excess of prescribed standards will wear adequate hearing protection.
- No vehicle will be operated in a reckless or careless manner or at a speed that is not reasonable and proper with regard to weather, traffic, surface condition, visibility condition, load, or type of vehicle.
- Cranes will be inspected as required by the manufacturer; inspection records will be maintained on site.
- Caution must be taken to ensure no one is below when equipment is used near tops of cuts, banks, or inclines.
- Special care, and an observer(s) with whom effective communication has been set up, will be used where there is a possibility of overturning equipment (for example, near tops of cuts, banks, inclines, deep fills, or soft or muddy terrain).

11.6 Welding and Cutting – General

- Only trained employees whose regular duties, as assigned by supervision, include welding and cutting, will perform this work.
- Only standard, approved equipment will be used.
- Fire extinguishers will be easily accessible to all employees performing welding or cutting operations.
- Screens or shields will be provided for the protection of persons or combustible material exposed to sparks or falling objects; where necessary, a fire-watch with an adequate extinguisher and signaling device will be posted.
- When working on lead, zinc, or other material could that generate harmful fumes, adequate ventilation and exhaust devices will be provided. When ventilation is not practical or feasible, respiratory protection will be used.
- The site supervisor or designated safety representative or foreman will inspect the work site before any use of welding or cutting equipment to ensure combustibles in the work area have been removed or otherwise protected from the welding or cutting work. This designated individual will also ensure that a current AF Form 592 for hot work is in effect at the designated job site.

11.7 Arc Welding

- Frames of welding machines operated from electric power sources must be properly grounded.
- Employees engaged in welding operations must wear adequate masks or hoods with proper eye protection, gloves, and leather aprons as minimum protection; these will be supplemented with other protective gear where warranted.
- All employees and passersby near the welding area will be protected from eye flash burns by use of partitions, screens, or other appropriate methods.
- Welding cables, cords, and leads must be neatly secured so as not to cause tripping.
- Electrode stubs will immediately be disposed of in a safe container.

11.8 Oxygen/Acetylene Welding and Cutting

- Cylinders must never be dropped or struck.
- Cylinders must be stored away from any source of heat.
- Where stored in the open, cylinders must be protected from continuous sunlight.
- Oxygen cylinders must be stored at least 20 feet away from cylinders containing any fuel gas.
- Where stored inside, oxygen cylinders must be separated from those containing fuel gases by a 5 foot-high, noncombustible barrier with a fire rating of at least one-half hour, or they must be separated by a 20-foot distance.
- Cylinders will be stored vertically and chained to prevent them from falling.
- Cylinders will never be lifted by machinery unless they are in a safe stand or cradle or are otherwise positively secured against falling or being dropped.
- Special arrangements will be made to secure cylinders while they are being transported. Carrying them loose on the back of a truck or in a pickup is prohibited.

- Caps will be firmly screwed onto cylinders except when the cylinders are connected to regulator during use.
- Use of oil or grease as a lubricant for oxygen valves or attachments is prohibited.
- Smoking or flame is prohibited near welding gas cylinders or outlets.
- Field repair of gauges, valves, accessories, or safety devices is prohibited.
- Acetylene must not be used for welding or cutting at pressures exceeding 15 psig.
- Acetylene cylinder valves will not be opened more than one full turn. When the valve stem is tool-activated, the tool will be left on the valve stem so that the valve can be closed quickly if necessary.
- Oxygen cylinder valves will be opened fully and made hand-tight against the back seat. This takes the high-range cylinder pressure off the packing.
- Mixing gases in cylinders, refilling cylinders, or using cylinders for any use except their original purpose is prohibited.
- When work is briefly suspended and the operator is nearby, it is permissible to close only the torch valves. Any other interruption of use (e.g., if one cylinder becomes empty) necessitates closing the cylinder valves, followed by prompt opening of the torch valves.
- Hoses must never be hung from regulators, other equipment, or the cylinder tops.

11.9 Excavation, Trenching, and Shoring

Excavation, trenching, shoring, and backfilling will be in accordance with 29 CFR 1926, Subpart P, Excavations. Site supervisors will be familiar with these regulations and will direct workers accordingly.

11.10 Fall Protection

- All floor or wall openings and platforms that expose workers to a fall of more than 4 feet will be covered or protected by guardrails.
- Fall protection equipment (e.g., body harnesses, lanyards, and lifelines) approved under 29 CFR 1926 and 29 CFR 1910 will be made available to and worn by all workers exposed to an unprotected fall of more than 6 feet.

12.0 PRESCRIBED CODES, STANDARDS

All work performed will be in accordance with the requirements of the latest edition of the following codes and standards, which will be considered minimum requirements:

- US Army Corps of Engineers: USACE EM385-1-1 Safety and Health Requirements Manual.
- 29 CFR 1926, Safety and Health Regulations for Construction, Department of Labor (OSHA).
- 29 CFR 1910, Occupational Safety and Health Standards, Department of Labor.
- American National Standards Institute (ANSI), as applicable.
- National Fire Codes (NFPA).
- National Electrical Code (NEC-NFPA).
- Any amendment or other safety codes applicable to the task being performed.

APPENDIX B

AEDC CONTRACTOR/SUBCONTRACTOR PRE- JOB CHECKLIST

AEDC CONTACTOR/SUBCONTRACTOR PRE-JOB CHECKLIST

Contractor: _____ Site Supervisor: _____

Job Location: _____ Contract Number: _____

Job Description: _____ Project Manager: _____

This checklist consists of Occupational Health and Safety Administration (OSHA) items that are most often overlooked by contractors/subcontractors when performing work at AEDC. These items and all other (OSHA) requirements in the contractual documents will be enforced. The N/A (not applicable) column indicates that the particular item does not apply to the jobs being performed under this subcontract. Answer all questions with a check mark (✓) in the appropriate column.

I. MANDATORY REQUIREMENTS-ALL PROJECTS, GENERAL. THE CONTRACTOR MUST-

1. *Have Code of Federal Regulations (29 CFR 1926, OSHA) on job site.

*Construction Safety Regulations Part 1926 are available at no cost from the US Dept of Labor, Office of Safety and Health.

2. Display all required OSHA notices.

3. Provide for frequent and regular inspections of job sites, materials, and equipment to be made by competent persons (1926.20)

a. The contractor is responsible for initiating immediate corrective action for any deficiencies noted during these inspections and is responsible for correcting all unsafe conditions and practices brought to his attention.

b. The contractor must immediately stop any activities considered to be eminently hazardous.

4. Provide AEDC medical emergency telephone numbers in a conspicuous location at the site.

5. Provide for orientation and training of employees in accordance with 1926.21.

6. Provide first aid supplies and qualified personnel to administer first aid at job site in accordance with 1926.50.

7. Comply with housekeeping requirements (1926.25).

8. Comply with all sign and tag requirements (1926.200).

9. All construction projects at AEDC are "Hard Hat Construction Sites" and hard hat signs must be posted.

10. Ensure lighting of construction area, ramps, runways, corridors, offices, shops, and storage areas while any work is in progress (1926.28).

11. Ensure that workers on construction projects wear hard-toes shoes (1926.28).

12. Obtain AEDC Burning/Welding permit for welding or burning operations before start of project.

13. Provide and require the wearing of appropriate personal protective equipment in all operations where workers are exposed to hazardous conditions or where it is needed to reduce the hazard exposure to workers.

II. INDUSTRIAL SAFETY

A. Hand and Power Tools

1. The contractor must inspect all tools and repair or replace tools with burrs, mushroom heads, and broken or damaged handles, and grips on files and rests, etc., in accordance with 1926.301.

2. Will the contractor use electrically powered tools on this project?

YES (☐) NO (☐)

If yes, the following requirements apply:

a. Install ground-fault circuit interrupters on all electrical power sources in accordance with the latest edition of the National Electric Code.

b. Ground all extension cords, outlets, and electrical tools in accordance with 1926.404.

3. Equip all power tools with guards in accordance with 19256.300-304.

4. Will contractor use power-actuated tools on this project?

YES (☐) NO (☐)

If yes, these tools must be operated in accordance with 1926.302e. Eye and ear protection must be worn. Contact Contractor C Safety for explosive symbols and site requirements.

B. Ladders

1. Will the contractor use ladders on this project?

YES (☐) NO (☐)

If yes, requirements a through d apply.

a. Use and store ladders in accordance with 1926.450.

b. Ensure all ladders to be used for electric work are nonconductive in accordance with 1926.450a-11.

c. Submit a list of the kind and height of ladders to be used on the job site, e.g., extension ladders, job-made ladders.

d. Repair defective ladders immediately or remove them from the AEDC site or construction site.

C. Scaffolds

1. Will the contractor use scaffolds on this project?

YES (☐) NO (☐)

If yes, requirements a through d apply.

a. The construction and erection of scaffolding must be in accordance with 1926.431.

b. Submit a list of the kinds of scaffolding and working heights, e.g., wood tubular, rolling, suspended, spiders, sky climbers, aerial lifts.

c. Scaffolds must be equipped with guardrails consisting of a top rail, midrail, and the toeboard.

d. Scaffolds must be secured every 26 ft. in height and 30 ft. in length.

D. Roofing/Roof Work

1. Will the contractor be using hot asphalt or pitch on the roof?

YES (☐) NO (☐)

If yes, requirements a through f apply.

a. Roofing and rooftop work must be performed in accordance with 1926.500 (g).

b. Employees engaged in rooftop work must be protected form falling from unprotected sides and roof edges by one or a combination of the following:

- A motion-stopping safety system (MSS system).
- Warning lines erected not less that 6 ft from roof edge.
- A safety monitoring system.

c. Employees involved in handling materials at an unprotected roof edge must be protected form falling by a MSS system.

d. Guardrails must be erected a minimum of 4 ft on each side of the access point through which materials are hoisted.

e. Materials must be stored a minimum of 6 ft from the roof edge.

f. Ladders used to access rooftops must conform to 1926.450.

E. Hoists, Cranes, Elevators, Man Lifts, Cherry-Pickers, Loaders

1. The contractor must inspect and maintain inspection records of all equipment in accordance with 1926.660 and 1926.552-556.

2. All crane work in proximity to electrical distribution and transmission lines must be protected as outlined in 1926.550(a) 15.

F. Excavation, Trenching, and Shoring

1. Will the contractor be doing any excavation, trenching, or shoring on the project?

YES (☐) NO (☐)

If yes, 1926.650 through .653 and requirements a through e apply.

a. Prior to excavation attempts must be made to locate underground utilities.

b. Submit detailed specifications to AEDC on all jobs requiring shoring before starting any excavation.

c. Use lighted barricades on all roadways.

d. Barricading trenches at AEDC will conform to AEDC standards.

e. Equip all personnel bridges over trenching or excavation with safety railing.

G. Steel Erection and Assembly

1. All work must be in accordance with 1926.750 through .752. Working on or off elevated surfaces must be in accordance with 1926.104 and .105.

2. Before beginning work, submit a Fall Protection Plan, indicating the kind of work, heights involved, and fall protection equipment to be used, including for protection of personnel working below (e.g., safety nets, debris nets).

H. Personnel Protective Equipment

1. Will the work performed under this project involve hazards that require the use of any of the protective equipment listed below?

YES (☐) NO (☐)

If yes, check the equipment that will be used on this job. Equipment must be used in accordance with the referenced CFR section.

☐ HARD HATS, 1926.100

☐ GOGGLES, 1926.102

☐ FACE SHIELDS, 1926.102

☐ WELDERS HOOD AND GOGGLES, 1926.102

☐ EYE PROTECTION FOR WELDER'S HELPERS, 1926.102

☐ RESPIRATORS, 1926.103

☐ EAR PLUGS OR EAR MUFFS, 1926.101 AND 103

☐ SAFETY BELTS, LANYARDS, LIFELINES, ETC., 1926.104

III. INDUSTRIAL HYGIENE

1. Will the contract be working in a confined space (including manholes) where combustible, toxic, or other hazardous materials are present?

YES (☐) NO (☐)

If yes, requirements a through d apply.

a. Perform work in accordance with AEDC Safety Standard B5, Confined Spaces.

b. Use supplied airline masks in confined areas such as manholes or for sandblasting or similar activities (1926.28)

c. Use portable ventilation blower equipment in confined spaces and where combustible vapors or gases are present.

d. Arrange entry through Area Supervisors or Project Manager 24 hours (one working day) before the entry.

2. Sanitation

a. An adequate supply of drinking water, cups, and a waste receptacle must be provided.

b. Toilets must be provided in accordance with 1926.51(c).

c. Washing facilities must be provided as outlined in 1926.51(f).

3. Will contractor use chemicals such as paints, solvents, adhesives, or other hazardous materials on the job?

YES (☐) NO (☐)

If yes, answer questions a through g.

a. Submit a list of these materials and attach Material Safety Data Sheets.

b. Are Material Safety Data Sheets provided for all employees using these materials?

YES (☐) NO (☐)

c. Are all employees using these materials trained in safe handling?

YES (☐) NO (☐)

d. Is sufficient ventilation being provided to control airborne concentrations of hazardous materials?

YES (☐) NO (☐)

e. Will respiratory protective equipment be provided for work where hazardous airborne materials are present?

YES (☐) NO (☐)

If yes, attach a detailed description.

f. Will adequate skin and eye protection be provided?

YES (☐) NO (☐)

If yes, attach a detailed description.

g. Will the contractor be using coal tar products?

YES (☐) NO (☐)

4. Will workers be exposed to excessive noise levels (85 dbA) for more than 8 hours?

YES ( ) NO ( )

If yes, attach a description of noise sources and the hearing protection to be used.

5. Will visible airborne soil and cement dust be generated?

YES (☐) NO (☐)

a. If yes, will watering be used to control dust.

YES (☐) NO (☐)

b. Will respirators be used to control worker exposures?

YES (☐) NO (☐)

6. Will the contractor be using sandblasting equipment?

YES (☐) NO (☐)

If yes, the contractor must provide and use appropriate personnel protective equipment in accordance with 1926.28.

Attach a description if sandblasting will occur. Attachment provided?

YES (☐) NO (☐)

7. Will the contractor work with asbestos?

YES (☐) NO (☐)

If yes, the provision of 1926.58 applies.

IV. FIRE PROTECTION AND PREVENTION

Will the following be available as needed?

1. Fire Extinguishers located in or at –	YES	NA
a. Construction offices, sheds, etc.	☐	☐
b. Scene of hot work, torch, welding, soldering.	☐	☐
c. Roofing operations (at tar pot and on roof)	☐	☐
d. Flammable liquid and gas storage areas.	☐	☐

NOTE: C and D require a fire extinguisher at 20BC as a minimum.

2. *SMOKING IS PROHIBITED* except in areas designated by AEDC.

3. Approved metal safety cans for all flammable and combustible liquids?

YES (☐) NO (☐)

4. Will the contractor be welding or using cutting torches?

YES (☐) NO (☐)

If yes, and indoors, attach a description of the ventilation system.

5. A fire extinguisher rated not less that 2A must be provided for each 3,000 square feet (1926.150cc).

V. Radiation Safety

1. Will Radiography be performed, radioactive materials or ionizing radiation sources be used?

YES (☐) NO (☐)

If yes, Safety and Health Group must be notified immediately before use compliance with 1910.95 and 10CFR is required.

SIGNATURE: DATE:

For AEDC use only – Hazards Control Review

This Checklist is Satisfactory (☐) Unsatisfactory (☐) ____ ____

By: _____

Buyer: _____ Inspector: _____ Date: _____

A321-0801-XSP A6 User and Subcontractor Safety

This supplement has been approved for the NFAC Site.

Review: This supplement will be reviewed and updated using the same cycle as AEDC Safety, Health, and Environmental (SHE) Standard A6 User and Subcontractor Safety.

References: AEDC SHE Standard A6 User and Subcontractor Safety

Additional Guidance for User and Subcontractor Safety at the AEDC NFAC site is provided by the latest revision of the NASA Ames Procedural Requirements (APR) 1700.1

Compliance to APR 1700.1 is mandatory for all personnel conducting operations, maintenance, testing and support

Scope:

This supplement explains the process to be used when selecting subcontractors. It also provides information to ensure that NFAC users and subcontractors comply with safety, health and environmental requirements specified in their contract/agreement when performing work at the AEDC NFAC Site.

This supplement applies to all personnel conducting operations, maintenance, testing and support at NFAC, NASA AMES.

NFAC Worksite Application:

All prospective subcontractors shall be required to submit three years of their Days Away, Restricted and Transferred (DART) and Total Recordable Incident Rate (TRIR) rates as part of the bid evaluation process. Prospective subcontractors shall also submit a worksite-specific safety plan that must be reviewed by and approved by safety prior to contract award. This information will be reviewed by both the NFAC Management and NFAC Safety Engineer as part of the formal evaluation and selection process.

All subcontracting efforts below $15,000 will be coordinated with the ATOM procurements office. All efforts exceeding $15,000 will also be coordinated with the Air Force Contracting Officer or AEDC Base Operating Contractor Contract Administrator at Arnold AFB, TN.

I. NFAC Site Management shall

1. Identify a team of NFAC personnel to review safety information provided during the bid evaluation process.
2. Ensure that a copy of all applicable SHE standards, instructions, and submittal requirements related to the contract are available to the subcontractor.

II. NFAC Supervisors and Test Directors shall

1. Conduct toolbox discussions with all users and subcontractors prior to the beginning of work each shift.
2. Ensure that a Safe Plan of Action (SPA) or equivalent is developed and utilized to help ensure that every task receives proper SHE assessment and planning.

III. NFAC Safety Engineer/Management Designee shall

1. Assess users and subcontractors comply with the directions identified in the SHE standards addressed in the reference section of this supplement
2. Ensure that a Task Safety Awareness (TSA) (Jacobs Subcontractor HSE) review is performed with the sub-contractor supervisors (work lead) and work crew to resolve any SHE issues or questions before work is continued, when a break in the work schedule, change in working conditions, or a change in work crew has occurred.