



**The University of Texas
Health Science Center at Houston**

**CONTRACTOR JOB-SITE
SAFETY INFORMATION & GUIDELINES**

**Produced by the University of Texas Health Science Center at Houston Environmental
Health & Safety Program**

UTHSC-H CONTRACTOR JOB-SITE SAFETY INFORMATION & GUIDELINES

The guidelines contained in this manual were developed for UTHSC-H contractor, sub-contractors and contract employees.

IMPORTANT NOTICE IMMEDIATELY REPORT ALL ACCIDENTS TO THE UTHSC-H PROJECT MANAGER

Failure to do so may result in fines and up to termination of the contract

PLEASE NOTE...

The Project Manager will give to the Contract Supervisor any additional or special instructions pertaining to the specific UTHSC-H worksite as part of the Contract Documents and prior to the construction start date. Depending on the contracted work location, there may be site-specific requirements and guidelines not covered by this document. This document is to serve as a guide for the Contractor, and where applicable, its subcontractors during their performance under the contracted scope of work. This document is not intended to address every potential safety and health issue that may arise during the scope of the contracted work. The Contractor bears the primary responsibility and liability for the environmental, safety and health issues created or otherwise arising from its work under the contract. While UTHSC-H retains the right to periodically review the work of the Contractor, and its subcontractors, UTHSC-H does not assume responsibility for any issues identified outside of contract compliance.

“Safe work practices is a condition of your contract with UTHSC-H”

I. INTRODUCTION

UTHSC-H recognizes that there are many hazards inherent in industry. However, through responsible and reasonable safety and health practices, these hazards can be controlled. There is no doubt that working safely has great humanitarian value and enhances employee morale. Furthermore, accident-free work will prove to be more profitable for the Contractor, and its clients. Therefore, we require you to give particular attention to the safety and welfare of your employees as well as our employees in the workplace and the conservation of the resources committed to the contracted work. This document sets forth certain guidelines and rules of operations on UTHSC-H sites. **IT CANNOT COVER EVERY POSSIBLE SITUATION.** Accordingly, UTHSC-H expects each Contractor to supplement these provisions with proper instructions and work practices that, based on knowledge and experience, will decrease the likelihood of injury to the employees, subcontractors' employees, and to others, as well as prevent damage to property and materials on UTHSC-H sites. At a minimum, Contractors will operate in compliance with all pertinent local, state and federal regulations, including those issued under, and since, the Occupational Safety and Health Act of 1970.

THE CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ANY REGULATIONS ISSUED THEREAFTER.

Additional and special requirements may be issued in conjunction with this handbook, both of which are to be considered as part of our contract. Your Project Manager will review all particulars of your Project with you.

II. DEFINITIONS

Authorized Operator - A qualified and properly trained person assigned by the Contractor Supervisor to operate a given vehicle, piece of equipment, or tool.

Project Manager -Project engineer, UTHSC-H Contract Administrator, coordinator, person designated by specific site, project coordinator, or UTHSC-H contact/job representative.

Contractor - shall include all Contractor employees as well as any employees of any subcontractor retained by Contractor or over whom the Contractor has control.

Contractor Supervisor - An experienced supervisor who the Contractor designates to represent it at the site and carry out the Contractor's supervisory, statutory and contractual obligations.

dB(A) - Sound level in decibels read on the A scale of a sound-level meter. A unit of measure for noise that weighs measured noise by diminishing lower frequencies, which closely approximates the response of the human ear to noise.

EHS – UTHSC-H Environmental Health and Safety

FPE – UTHSC-H Facilities Planning & Engineering

II. DEFINITIONS (Continued)

HVAC system - Heating, Ventilating, and Air Conditioning system.

MSDS - Material Safety Data Sheet. As part of hazard communication standards (right-to-know laws), federal and state OSHA programs require manufacturers and importers of chemicals to prepare information on their products.

OSHA -U.S. Occupational Safety and Health Administration, part of the U.S. Department of Labor. This agency sets limits on chemical exposures, develops safety standards and establishes other regulations to protect worker health and safety.

PEL - Permissible Exposure Limit. An exposure limit published and enforced by OSHA as a legal standard.

PPE - Personal Protective Equipment (i.e., hard hats, gloves, safety glasses, etc.)

psi -Pounds per square inch.

Competent Person - An experienced/trained person whom the Contractor has designate to represent it for the inspection of tools, equipment, safety equipment, personal protective equipment, and methods of use.

TWA - Time-Weighted Average. Used to combine multiple samples taken on an employee for a full shift to obtain an average daily exposure.

UTHSC-H – University of Texas Health Science Center Houston

III. GENERAL PRINCIPLES OF PREVENTION IN HEALTH & SAFETY AT WORK

- A. Eliminate or avoid risks
- B. Detect, anticipate, evaluate and reduce the risks which cannot be eliminated
- C. Fight risks at source
- D. Foster prevention through information and training
- E. Replace what is hazardous by what is less hazardous
- F. Adapt work to the employee
- G. Promote collective protection
- H. Use individual protection as a last recourse
- I. Take into account changes in technique
- J. Give appropriate instructions to the personnel

IV. CONTRACTOR RESPONSIBILITIES

- A. **All contractor and sub-contractor superintendents, supervisors, and lead men shall attend the UTHSC-H safety orientation training course administered by the EHS Department. This training shall be completed prior to mobilization or the commencing of work.**
- B. Contractors or Contractor's employees who fail to follow UTHSC-H work rules may be prohibited from working on the site and/or the contract with UTHSC-H could be cancelled. Working safely is a condition of your contract with UTHSC-H. (See section V.)
- C. The Contractor has the primary responsibility for on-site safety for all persons performing work under its control.
- D. In addition to the OSHA, federal, state and local regulations, the Contractor shall use "good judgment" consistent with that Contractor's particular trade in cases where there is no precedent case or law.
- E. Contractor shall cooperate in any inspections conducted by UTHSC-H or government agencies. Copies of all OSHA citation notices shall be submitted to UTHSC-H immediately upon Contractor's receipt.
- F. Contractor shall ensure that all personnel are properly trained and instructed for all jobs which require specific training and/or competency to meet all applicable OSHA regulations, local, state and federal law, and UTHSC-H requirements.
- G. Although Contractor is and shall remain an independent Contractor in the performance of all work under the contract, Contractor shall also observe UTHSC-H Safety requirements in order to achieve the results called for without subjecting person or property to unnecessary risk.
- H. Contractor shall fully comply with safety & health regulations and shall notify its employees, its subcontractors and employees of its subcontractors of the contents of these regulations. No one shall begin work inside UTHSC-H property until such notification has been given to each person.
- I. Nothing contained in these regulations or in instructions furnished by UTHSC-H shall be interpreted to enlarge the legal duty of UTHSC-H to the Contractor, its agents, employees or subcontractors or its employees.
- J. Willful or negligent violation of these rules may result in your being prohibited from working at the UTHSC-H site or possibly the cancellation of your employer's contract with UTHSC-H.

IV. CONTRACTOR RESPONSIBILITIES (Continued)

- K. In the event of an incident or a lost time injury to an individual on or near the work site, the contractor shall notify the Project Manager as soon as possible within 24 hours of the event. The contractor shall record the location of the event, the circumstances surrounding the event, by using photography or other means, and shall gather witness statements and other documentation which describes the event. The contractor shall supply the Project Manager with a set of incident investigation documents no later than 36 hours after the occurrence of the event. In the event of a catastrophic incident (one fatality or three workers hospitalized), the scene of the incident shall be barricaded and left intact until all investigations are completed.
- L. The Contractor shall ensure that its employees are properly identified (IE. UTHSC-H issued Pictured ID badge) and have been instructed about the boundaries of their work areas.
- M. All Contractors shall conduct and maintain an educational program to assure the inclusion of and adherence to proper safety instructions as a part of employee job assignments. This includes such activities as weekly toolbox safety talks and joint safety meetings with all site Contractor's employees and UTHSC-H representatives. Training records shall be made available to UTHSC-H EHS upon request.

As a condition of performing work at UTHSC-H, Contractor agrees that all work is to be done in accordance with all applicable laws and all other local, state and federal rules and regulations covering such work; among others, the Contractor shall observe and comply with all safety and health standards set forth under the Williams-Steiger Occupational Safety and Health Act of 1970, and all applicable federal, state and local occupational safety and health regulations and standards.

V. Equipment

The Contractor is responsible for determining and providing the proper protective clothing for any anticipated physical, biological, radiological, or chemical exposure. In addition, all necessary tools and equipment, including personal protective equipment, shall be provided by the Contractor and shall be properly maintained and appropriate for the safe accomplishment of the particular task.

- A. All such equipment shall be used only by Contractor employees who have been properly trained and are otherwise qualified to safely use the tools and equipment.
- B. UTHSC-H retains the right to refuse or restrict the use of tools, equipment or chemicals on the site.
- C. UTHSC-H will loan no tools or equipment to the Contractor.
- D. The Contractor shall not loan any tools, equipment or personal protective equipment to any UTHSC-H personnel.

VI. Permits

Written, properly authorized, current permits are required **BEFORE** proceeding with the many types of work on campus. To prevent unnecessary delay, early consultation with your Project Manager, FPE, UTHSC-H, and EHS regarding required permits is recommended. Permits will be obtained and posted at the worksite, and the instructions must be followed to the letter of the permit. Failure to do so will result in termination of the contract.

Examples of work requiring permits are Hot Work and Utility Shut Down request.

Fire System shut down: See the UTHSC-H “**Fire & Life Safety Impairment Guide**”

VII. INDIVIDUAL RESPONSIBILITIES

Maintain adult, professional behavior at all times.

- A. Horseplay, fighting, gambling, the possession or use of firearms, ammunition, weapons of any kind, alcoholic beverages, or illegal drugs is strictly prohibited.
- B. **Smoking**, Chewing, Dipping, and/or other Tobacco Products will not be allowed anywhere on UTHSC-H premises.

VIII. SAFETY VIOLATIONS (CONTRACTOR’S)

Violations of site safety rules and procedures can jeopardize the welfare of both the Contractor and site personnel. Violations of safety rules and procedures, either OSHA standards, site-specific UTHSC-H policies and/or operating procedures, or recognized industrial safety practices, may result in expulsion from the campus for a period determined by UTHSC-H. Continued violations, or a single significant event (evidence, incident or violation) that is determined by UTHSC-H to pose an unacceptable risk due to a willful act on the part of the Contractor or its employees may result in termination of the contract.

- A. UTHSC-H Project Managers or EHS representatives have the right to observe and stop work until any identified safety violations are corrected. The Contractor has the responsibility to comply with the UTHSC-H directives. Failure to comply with the recommendations could result in termination of the contract.
- B. Depending on the circumstances and the degree of risk associated with an initial infraction by a Contractor employee, the following actions may be taken:
 - 1. A verbal warning may be given to the Contractor supervisory personnel and that affected individual.
 - 2. The Contractor employee will be excluded from further participation in the contracted scope of work.
 - 3. The Contractor employee will be forever barred from participating in any contracted work on the site.

VIII. SAFETY VIOLATIONS (CONTRACTOR'S continued)

- C. The removal procedure may be accelerated and/or expanded to include removal of a Contractor's or the subcontractor's entire workforce where safety violations are widespread or repetitive.
- D. Contractors who are uncooperative or that have an unsatisfactory safety evaluation can be removed from bid lists for a period designated by UTHSC-H.

IX. GENERAL SITE INFORMATION

Failure on the part of the Contractor or subcontractor to comply with the items listed below may result in termination of the contract. Prior to working in areas where site-related hazards might be present, consult the UTHSC-H Project Manager for information with regard to the following:

- A. Area safety requirements and special instructions which the Contractor Supervisor must relay to his employees.
- B. Restrictions on type of work to be performed.
- C. All permit requirements.
- D. Location of lockout points/disconnects.
- E. Potential changes in work environment, including unexpected liquids or vapors.
- F. Special training that may be required for the work.
- G. Location of emergency alarms, evacuation routes, and assembly points for the work area.
- H. Permission must be obtained from the Project Manager whenever it is necessary for personnel to go to the roof of any building.
- I. Lunch and break areas are to be coordinated through the Project Manager.
- J. Pedestrians should use walkways where provided. Shortcuts shall not be taken through operating areas.
- K. Explosives of any type are prohibited on the site.

IX. GENERAL SITE INFORMATION (Continued)

Site entry

- A. Contractor personnel, equipment and materials must enter the campus only through designated entry points. Failure to adhere to these procedures may result in prohibited access on the part of the Contractor or subcontractor.
- B. Access routes to and from work locations and emergency exits must be adequately lighted and maintained free and clear of obstructions. (CFR 1926.56 Illumination) Consult the Project Manager & EHS for access routes for excavations, roofs, and for special items such as “Confined Space Entry.”
- C. The Contractor shall take the necessary precautions to control access onto the construction site.

Clothing

- A. Shirts and trousers covering the legs and ankles shall be worn at all times. Complete arm protection will be required in some operating areas. Shorts, sleeveless shirts and tank tops are not permitted.
- B. Avoid loose clothing, which may get caught in machinery.

Medical

- A. UTHSC-H medical facilities, if present, will be made available only in emergency situations where the severity of the injury dictates immediate attention.
- B. The Contractor must provide and maintain a supply of first aid items appropriate for the work being performed.
- C. The Contractor shall report to the Project Manager all job-incurred injuries or hazardous material exposures. (See section IV Contractor Responsibilities, sub-section “K” reporting injuries.)

X. SPECIFIC PROCEDURES

Asbestos

- A. EHS or the Project Manager is responsible for identifying and notifying the Contractor of all known asbestos-containing materials in the proposed work area.
- B. Special handling procedures and governmental notifications are required for any work with asbestos-containing materials.
- C. UTHSC-H EHS must approve any asbestos-related work.
- D. Asbestos abatement is to be coordinated through UTHSC-H and performed only by a certified Contractor according to governmental regulations.
- E. If the contractor should come into contact with material they suspect is asbestos, work should be stopped immediately and reported to the Project Manager or EHS.

Asphalt Kettles and Melting Pots

The potential for fire and serious burns is ever present when heating asphalt and related materials. As such, UTHSC-H requires the following measures:

- A. Prior to starting a hot asphalt roofing job the Contractor must meet with the UTHSC-H Project Manager to discuss ways to minimize the building occupants' potential exposure to asphalt fumes. When possible, nearby air intakes such as doors, windows and HVAC inlets should be closed or isolated.
- B. Keep all kettles and melting pots on the ground outside and at least 25 feet away from any building or combustible material. No melting pots or kettles are to be used on roof surfaces.
- C. Be sure the melting chamber is vented and inspect hoses, clamps gauges, tools, fuel tank, and bucket handles before starting.
- D. The Contractor is to request and obtain a Hot Work Permit through the UTHSC-H Project Manager prior to firing the vessel. "Hot Work" permits are valid for a maximum of (3) three days.
- E. A Contractor supplied fire watch with an approved extinguisher must stay with the melting pot at all times and until it completely cools. A second fire watch with two approved extinguishers will be needed on the roof if the melted material is transported to roof surfaces. Maintain careful temperature control with molten material to prevent accidental ignition.
- F. Keep the lid of the kettle closed at all times except when reloading.
- G. Erect barricades or restrict access around the kettle and any area where hot asphalt is present and/or used overhead.

X. SPECIFIC PROCEDURES (continued)

Barricades

- A. Barricades are required around all construction sites and all excavations, holes, or openings in floors or roofs, elevated platforms, certain types of overhead work, restricted access areas and wherever otherwise necessary to warn people against the potential for falling in, through, or off. Barricades must be suitable for the area of use.
- B. Prior to erecting any barricades, the contractor shall submit to the Project Manager a site safety plan addressing Interim Life Safety Measures.
- C. When operating equipment (i.e. forklifts, scissor lifts) or conducting overhead work within a barricaded pedestrian walk way, a flagman will be present, to ground guide the equipment and to warn pedestrians of overhead work.
- D. Barricades shall be removed promptly when no longer needed.

Compressed Gas Cylinders (Welding Gases)

Never use oxygen to operate pneumatic tools, pressurize a container, blow out lines, or as a substitute for compressed air or other gases. See "Tools" for additional information on compressed air use.

- A. All cylinders must be secured in an upright position at all times.
- B. Oxygen and fuel gas cylinders are to be separated by at least 20 feet when in storage, and placed away from exposures that may rupture the tanks.
- C. Cylinders must have valve protection caps when in storage or in transport.
- D. Cylinders shall be labeled as to the nature of their contents.

Concrete and Masonry

- A. Contractor must not place loads on any concrete structure until a qualified Contractor employee/representative has made a determination as to the structural design.
- B. Contractor must guard all protruding reinforcing steel (rebar) to eliminate the hazard of impalement.
- C. Contractor must not remove any forms or shoring until the determination that the concrete has gained sufficient strength to support its weight and superimposed loads.
- D. Contractor must establish a limited access zone whenever a masonry wall is being constructed. Masonry walls must be braced to prevent collapse and/or overturning.

X. SPECIFIC PROCEDURES (continued)

Confined Space Entry

- A. A confined space may be entered only with a valid Confined Space Entry permit and full compliance with the instructions on the permit. The Contractor is responsible for providing properly trained personnel, and appropriate equipment and instrumentation to perform proper confined space entry and work.
- B. Contractors are required to provide their own entry equipment (including, but not limited to, PPE, ventilation, lock-out devices, body harness, communication equipment, and calibrated monitoring equipment) and perform their own entry monitoring.
- C. Contractors are required to coordinate all entry operations with the site UTHSC-H Project Manager and UTHSC-H EHS.
- D. Contractors shall be equipped and trained to rescue their own personnel or subcontract personnel. IN NO EVENT WILL ANY UTHSC-H location employee accept responsibility for rescuing contract personnel who are not under their direct supervision. If the Contractor is not equipped to rescue its own employees, it must secure the availability of local outside rescue services before the work is initiated.

Control of Hazardous Energy

See Lockout/Tagout

Corrosive Acids and Caustics

See Waste section XX

Cranes

- A. All overhead lifting/hoisting equipment must be equipped with a manufacturer's name plate and capacity specification.
- B. The Contractor is responsible for the proper operating condition and capacity of the crane.
- C. Minimum Operator Qualifications - Only qualified contract employees will operate the crane. Operators shall provide proof of certification or licensing to operate the specific type of equipment which he/she will operate. Proper separation distances shall be maintained by the operator at all times.
- D. Motorized crane engines must be stopped before refueling. A fire extinguisher must be present during refueling and must be immediately accessible.

X. SPECIFIC PROCEDURES (continued)

Demolition Work

- A. Changes in planned work (including start dates) must be reported to the Project Manager immediately. Any changes in the work may require suspension of the work until further notification is completed.
- B. When undertaking demolition work, an engineering survey must be completed prior to the start of the demolition project to determine condition of the framing, floors and walls.
- C. Contractors must provide their own containers for debris and the containers must be covered as appropriate.
- D. Demolition involving concrete floor slabs, roofs, walls, or any area with suspected power utility conduit or wiring must be checked with an instrument of reliable technology to detect the presence of electricity prior to demolition.
- E. During demolition existing automatic sprinkler systems shall be retained in service as long as reasonable. (See UTHSC-H policy on Fire System Impairment)

Dust, Fumes and Odor-Producing Work

- A. Prior to the generation of dust and/or fumes adjacent to occupied areas, the Contractor must notify the Project Manager to coordinate any clearances, smoke detector isolation and notification of affected areas. (See UTHSC-H policy on Fire System Impairment)
- B. The Contractor is responsible for any exposures to its employees, including ensuring that its employees are not exposed to exposure levels in excess of the applicable OSHA standards.

Electrical - Temporary Wiring, Lights, etc.

- A. All work should be done by personnel familiar with code requirements and qualified for the class of work to be performed. Appropriate personal protective equipment should be used as necessary.
- B. All temporary power panels and live parts of wiring or equipment shall be fully guarded to protect all persons or objects from harm. In addition, switches, fuses, and automatic circuit breakers should be marked, labeled, or arranged for ready identification of circuits or equipment supplied through them.
- C. All circuits should be protected against overload.
- D. All electrical wiring and equipment should be a type listed by the Under Writers' Laboratories (UL) or another recognized test or listing agent for the specific application.
- E. Ground fault circuit interrupters (GFCI) are required in all circuits used for portable electric tools and equipment.

X. SPECIFIC PROCEDURES (continued)

Electrical - Temporary Wiring, Lights, etc. (continued)

- F. Flexible cord sets used on construction sites shall contain the number of conductors required for the service plus an equipment ground wire. The cords should be hard usage or extra-hard usage. Approved cords must be identified by the word “outdoor” or “weather-approved” on the jacket.
- G. Electrical wire or flexible cord passing through work areas should be covered or elevated to protect it from damage by foot traffic, vehicles, sharp corners, projections, doorways or pinching. In addition, patched, oil-soaked, worn, or frayed electric cords or cables shall not be used.
- H. Extension cords or cables shall not be fastened with staples, hung from nails, or suspended by bare wire.
- I. Flexible cords should be used only in continuous lengths without splices, except that molded or vulcanized splices may be used if made by a qualified electrician. The insulation should be equal to the cable being spliced, and wire connections will be soldered.
- J. Bulbs attached to temporary lighting strings and extension cords shall be protected by wire guards or the equivalent unless deeply recessed in a reflector. Temporary lights should not be suspended by their electric wire unless the cord and the lights are designed for this suspension.
- K. Exposed empty light sockets and broken bulbs are not permitted and must be immediately corrected.
- L. Upon completion of the project the temporary lighting shall be removed by the contractor.
- M. All construction temporary lighting shall provide the required ft. candles as specified by 29 CFR .1926.56(a) regulations and any related NFPA 101 Life Safety codes.

Excavations

- A. The Contractor must notify the Project Manager prior to any excavating.
- B. The Project Manager will be involved in determining overhead and known underground utilities.
- C. Contractor material for bracing and shoring must be in good condition and of proper dimensions.
- D. Excavations are to be reviewed each day by a competent Contractor individual before entering and after a heavy rain or thaw.
- E. The Contractor must assess soil conditions to determine type of bracing or sloping required for the excavation. (Type A, B, or C.)

X. SPECIFIC PROCEDURES (continued)

Excavations (continued)

- F. Excavated material must be piled at least three (3) feet back from the edge of the excavation.
- G. Contractor to provide barricades around excavation areas to protect people from falling into the trench before digging begins (lighted barricades must be provided at night).
- H. No one is permitted in an excavation while equipment is in operation next to the edge of the excavation.

Fall Protection

- A. All work performed six feet or more in elevation or within four feet of an unprotected floor opening, wall opening, or roof edge with a potential six-foot fall requires optimum fall protection.
- B. Approved techniques for providing optimum fall protection include:
 - 1. A properly manufactured/constructed, erected, secured and maintained ladder.
 - 2. A properly manufactured, erected and maintained scaffold with complete handrail system (top rail, mid-rail, toe-boards).
 - 3. A properly inspected, operated and maintained mobile bucket or scissors lift. Contractors working with mobile buckets or scissors lifts must work within the confines of the railing and be tied off utilizing a full body harness.
 - 4. A properly designed and maintained full body harness equipped with a shock absorbent lanyard with double-action snap hooks, inertia reels, and support cabling.
 - 5. Maintain guarding at all openings along roof edges, building edges, and floor openings with guard rails, barricades and/or covers.
 - 6. Other pre-approved methods designed by a registered Professional Engineer (i.e., netting systems, cabling systems).
 - 7. When using the body harness method of fall protection, the Contractor worker must, at all times, be tied off by at least one connection between his/her body harness and a secured building structural member or other fall protection device. The tie-off or fall protection device must be of adequate strength to support the fall of that particular worker. Connection points should be designed ahead of time in the design phase of the project work.
 - 8. Every employee to whom the Contractor or its subcontractor issues a safety harness shall be instructed by a Qualified Person in the proper method of wearing, using, and securing it. Furthermore, every safety harness and lanyard must be inspected by a Qualified Person upon issue, and by the wearer before each use.

X. SPECIFIC PROCEDURES (continued)

Fire Protection

- A. The use of UTHSC-H fire hoses and hydrants is prohibited.
- B. All personnel should know where the nearest fire alarm pull station is; how to activate the alarm; proper emergency and evacuation procedures; emergency signals for each work area; and the safe-area or designated assembly area. (Consult UTHSC-H EHS for additional details)
- C. A Hot Work Permit is required before a Contractor or subcontractor uses a flame/heat source (welding, cutting, etc.) on UTHSC-H premises. See “Hot Work” for additional details.
- D. Fire lanes to provide access to all areas should be established and maintained free of obstruction. “No parking” areas should be designated around fire hydrants and fire-fighting equipment.
- E. Open flame devices shall not be left unattended.
- F. Only Contractor-supplied ABC pressurized dry chemical type (min. 10 lbs.) fire extinguishers may be used on UTHSC-H property. The Project Manager & EHS must be immediately notified of any fire extinguisher discharged on UTHSC-H property, and Contractor shall fill out an incident report. See “Incident Reporting.”
- G. Paint-soiled and oil-soaked materials, when not in use, should be stored in appropriate metal containers, steel cabinets or containers, and should be removed from the premises on a daily basis.

Flammable/Combustible Liquids and Material

- A. Flammable and combustible liquids shall not be stored in areas used for exits, stairways, or passageways.
- B. Flammable and combustible material must be stored away from steam lines, radiators, heaters, hot process and any other heat source.
- C. In all areas where flammable and combustible liquids are handled or used, appropriate ventilation should be provided to prevent hazardous levels of flammable vapors from accumulating.
- D. Contractor-supplied fire extinguishers shall be located within 30 feet of flammable liquids or the liquid storage site of any flammable liquid stored under the Contractor’s control.
- E. Flammable liquids used in quantities of less than 55 gallons shall be contained in properly maintained “Safety” cans (**Plastic containers are prohibited**), listed by a nationally recognized testing laboratory, and identified according to their contents.

X. SPECIFIC PROCEDURES (continued)

Flammable/Combustible Liquids and Material (Continued)

- F. No more than 25 gallons of flammable or combustible liquid should be stored in a room outside of an approved metal storage cabinet. For quantities greater than 25 gallons, an approved metal storage cabinet should be used for indoor storage and labeled in conspicuous lettering, "FLAMMABLE - KEEP FIRE AWAY." No more than 60 gallons of flammable or 120 gallons of combustible liquid should be stored in any one storage cabinet; and no more than three such cabinets should be located in a single storage area.
- G. The Contractor shall follow site-specific spill prevention procedures.
- H. Flammable-liquid dispensing systems should be electrically bonded and grounded.
- I. All flammable liquid containers must be maintained closed at all times, unless adding to or dispensing from the container.
- J. All outside storage areas should be at least 20 feet from any building.
- K. No flammable liquid with a flash point below 100°F should be used for cleaning purposes.
- L. For roof work, no more than a one-day supply of flammables may be placed on the roof during working hours. The Contractor shall remove all flammables from the roof at the end of each day.

Floor Openings, Open Sides Hatchways

- A. Floor openings and elevated platforms shall be guarded by standard railing and toe-board or cover.
- B. Temporary floor openings must have standard railings.
- C. All holes through floors, decking, walls less than 3 feet above the floor or other openings shall be guarded by either a standard railing with standard toe-board on all exposed sides, or a standard floor-hole cover. They must be placed immediately after completion of the penetration and maintained until filled in or provided with an access control device to prevent their displacement. Contractor is responsible for providing covers of such structural dimension as to prevent their failure upon normal and routine use.

X. SPECIFIC PROCEDURES (continued)

Hazard Communication

- A. The Contractor must provide the Project Manager, with the product's Material Safety Data Sheet (MSDS) before any hazardous substance is brought onto the campus.
- B. EHS will make available to the Contractor an MSDS for any UTHSC-H supplied hazardous substance on or near the job site.
- C. Chemical containers brought on site by the Contractor must comply with all appropriate federal, state and local labeling laws and must reflect their contents in clear, unmistakable language.

Hazardous Waste

See "Waste."

Heating Devices (Portable or Temporary)

- A. All Contractor heaters brought onto the site must be Factory Mutual and/or Underwriters Laboratories approved.
- B. Contractor must notify the responsible Project Manager & EHS of all liquid/gas-fueled Contractor heaters brought onto the site prior to use.
- C. The use of liquid fuel heaters inside of buildings is subject to the Hot Work Permitting procedures and requires frequent monitoring of exhaust atmosphere. Exhaust levels must be maintained in accordance with a safe breathing atmosphere.

High-Pressure Water Guns

- A. Written notification must be provided to the Project Manager if high-pressure water cleaning (in excess of 5000 psi) is to be used. As with all other areas of work performed on the site, the Contractor is responsible for assuring all personnel performing such work are fully trained and qualified.
- B. High-pressure cleaning equipment must be inspected daily or prior to use.
- C. Units with a fluid pressure greater than 100 psi but less than 3200 psi:
 - 1. A manually actuated control (dead-man control) must be provided. The control actuator must be biased to the off position and located or guarded to reduce the likelihood of unintentional operation.
 - 2. The wand or lance length must be at least 36", measured from the trigger mechanism to the discharge nozzle. If the wand or lance is the type that can be detached from the trigger mechanism, an interlock mechanism must be provided to prevent the discharge of fluid in excess of 100 psi when the lance or wand is removed.

X. SPECIFIC PROCEDURES (continued)

High-Pressure Water Guns (continued)

- D. Units with a fluid pressure greater than 3200 psi, but less than 5000 psi:
1. A manually actuated control (dead-man control) must be provided. The control actuator must be biased to the off position and located or guarded to reduce the likelihood of unintentional operation.
 2. The wand or lance length must be at least 48", measured from the trigger mechanism to the discharge nozzle. If the wand or lance is the type that can be detached from the trigger mechanism, an interlock mechanism must be provided to prevent the discharge of fluid in excess of 100 psi when the lance or wand is removed.
 3. A protective cover or device must be used to shroud nonmetallic hose at the point where the hose connects to the lance. The protective cover should be at least 2 feet in length from any holding or grasping point.

Hot Work - Including Burning and Welding

- A. A Cutting and Welding Permit (Hot Work) is required in all areas before striking an arc or lighting a torch. Failure to obtain a proper permit through the Project Manager may result in termination of the contract.
- B. Fire extinguishers of the proper size, type and in sufficient number shall be provided by the Contractor and located within 30 feet of any welding, burning, or open-flame work. Contractor personnel trained in the use of the fire extinguisher shall be present during the permit period.
- C. The Contractor is responsible for providing continuous fire watch during and for at least 30 minutes after any "hot" work has been completed.
- D. Acetylene/oxygen hoses and welding leads should not be run through doorways. If there is no alternative, the door shall be properly secured.
- E. No welding or burning is to be done on a closed vessel previously in use unless it has been decontaminated, approved by the Project Manager and the Contractor complies with the OSHA Confined Space Regulation.
- F. All exposed flammable and combustible materials below welding and burning areas must be removed to a safe location, covered with a fire retardant material, or protected by containing all sparks and slag in an approved spark catcher. In addition, a fire watch equipped with fire extinguishing equipment must be provided on all levels that contain sparks or open flame.

X. SPECIFIC PROCEDURES (continued)

Hot Work - Including Burning and Welding (continued)

- G. Welding leads and acetylene/oxygen hoses must be bridged over or otherwise supported by a minimum of 7 feet above passageways. Such equipment may not be suspended from conduit, process lines, sprinkler lines, etc.
- H. Adequate ventilation must be provided by the Contractor, taking into account the material being welded or burned and the area the work is being performed in relative to the employee population.

Welding – Electric

- A. All work in operating areas must have a separate and adequate ground, pulled from the machine to the work location.
- B. Remove all used or otherwise discarded rods and place in a proper disposal container.
- C. The Contractor is responsible for restricting the access into the work area through proper barricades and the placement of effective arc shields.
- D. The welding machine should be turned off when not in use.
- E. When electrode holders are to be left unattended, the electrodes shall be removed and the holder shall be placed so that it cannot make electrical contact with employees or conducting objects.

Cutting and welding – gas

- A. All oxy-acetylene equipment must be disassembled, with regulators removed and protective caps installed hand-tight, prior to vehicular transporting.
- B. Compressed gas cylinders must be secured vertically to an adequate support while in storage, transit, or use. The protective cap must be on during storage and transit.
- C. The cylinder valves will be closed and the hose lines bled after completing the required burning or welding.
- D. At no time will an oxygen/acetylene torch be unattended and remain pressurized.
- E. All hoses, gauges, and torches shall be inspected before each use.
- F. A torch may not be left in a vessel, tank, or other closed container.
- G. Acetylene/oxygen torches must be equipped with flashback arresters.

X. SPECIFIC PROCEDURES (continued)

Housekeeping (General)

- A. All construction materials are to be stored in an orderly manner.
- B. Keep all exits and access ways unobstructed.
- C. Remove all scrap and trash from the job site daily.
- D. Scrap, trash, and other wastes shall be placed in designated containers authorized by the Project Manager.
- E. Metal containers with covers must be provided for disposal of oily and flammable/combustible soaked rags.
- F. Gang boxes are to be removed immediately from mechanical workspaces upon completion of projects.

Incident Reporting (Accidents/Near Misses)

- A. In the event of an incident or a lost time injury to an individual on or near the work site, the contractor shall notify the Project Manager as soon as possible within 24 hours of the event. The contractor shall record the location of the event, the circumstances surrounding the event, by using photography or other means, and shall gather witness statements and other documentation which describes the event. The contractor shall supply the Project Manager with a set of incident investigation documents no later than 36 hours after the occurrence of the event. In the event of a catastrophic incident (one fatality or three workers hospitalized), the scene of the incident shall be barricaded and left intact until all investigations are completed.

Industrial Vehicles Safety (Scissor Lifts, Steer Loaders, Forklifts)

- A. Operators of vehicles and construction equipment must observe all site traffic regulations.
- B. All passengers on motor vehicles must be seated and within the confines of the vehicle.
- C. All vehicles must be shut off when unoccupied.
- D. When operating equipment (i.e. forklifts, scissor lifts) or conducting overhead work within a barricaded pedestrian walk way, a flagman will be present, to ground guide the equipment and to warn pedestrians of overhead work. **Pedestrians have the right of way at all times.**
- E. Park in specified areas only. Do not block entrance ramps, trash docks, truck doors, etc.
- G. Vehicles, material handling and other types of mobile equipment are not allowed on the site without the approval of the Project Manager, and can only be driven or operated by trained licensed personnel.

X. SPECIFIC PROCEDURES (continued)

Authorized Operators

- H. The driver is responsible for the safety of all passengers and the stability of materials being hauled or handled by his/her equipment.
- I. All speed limits and other traffic signs must be obeyed.
- J. The motor shall be shut off before refueling. Refueling of vehicles is to be performed outside if possible.
- K. The Authorized Operator shall shut off the motor and set the brakes before leaving the vehicle controls.
- L. Personnel are prohibited as passengers on mobile material handling equipment or other vehicles designed for hauling equipment or material.
- M. A flagman shall direct traffic and backing vehicles in congested areas.
- N. All equipment attachments, such as end-loader buckets, forklift forks, and like equipment parts, must be lowered to the ground before the Authorized Operator may leave his/her material handling equipment.
- O. All material handling equipment must have an audible back-up alarm.
- P. Riding crane hooks and other lifting equipment designed for materials only is strictly prohibited.
- Q. No internal combustion vehicle or machinery is to be operated inside buildings unless proper engineering controls have been implemented to minimize carbon monoxide levels. Use of such equipment is to be approved by the Project Manager & EHS.

Inspections

The Contractor shall check all work areas and perform regular inspections to ensure that they meet the guidelines set forth in this document.

XI. Ladders

General

- A. Contractors at no time are to use UTHSC-H owned portable ladders or related equipment.
- B. Ladders must be inspected by a Qualified Person designated by the Contractor and approved for use by that Qualified Person before being used by Contractor. Ladders must be visually inspected before using.
- C. Painting ladders or the use of painted ladders is prohibited.
- D. If it is necessary to place a ladder in or over a doorway, barricade the door and post warning signs.
- E. No more than one person is allowed on a ladder at a time.
- F. Metal ladders must not be used for electric welding, or near any electric lines or services.
- G. Ladders are not to be used for skids, braces, workbenches, or any purpose other than climbing.

Step ladders

- A. Step ladders must be set level on all four feet, with spreaders locked.
- B. Never stand on the top or the first step below the top of a step needs for lifting and placement of personnel, materials and/or ladder.
- C. Step ladders must be tied off when used close to the edge of an elevated platform, roof, floor opening, or when they exceed eight feet in height.

Straight and Extension ladders

- A. Place ladder so the base is out one-fourth the vertical distance from the ground to the object against which the ladder is leaning.
- B. All straight and extension ladders must be equipped with non-skid safety feet.
- C. Ladders must be adequately tied off/secured to prevent support the load being raised.
- D. The top of a ladder used as access to an elevated work area must clamps should be inspected visually before use. Ensure to extend no less than 36 inches above landing. Never handle loads.
- D. After extension section has been raised to desired height, the safety beyond the equipment's rated capacity.
- E. Extension ladder sections are not to be used separately.

XII. Lockout-Tagout (Control of Hazardous Energy)

- A. For work areas specifically under the exclusive control of the contractor, the contractor is required to identify and control sources of hazardous energy.
- B. All contractors working on the equipment must affix their lock and tag.
- C. The lock must be removed at the end of the job with the approval of the originator.
- D. For work area NOT specifically under the exclusive control of the Contractor, the Contractor is required to notify UTHSC-H Project Manager to inform them that a particular piece of equipment or system is being shut down.
- E. Never remove another person's tag or lock to operate a switch, valve or device.

XIII. Personal Protective Equipment (Head, Eye, Foot, Ear, etc.)

THE CONTRACTOR RECOGNIZES AND APPRECIATES THAT IT IS RESPONSIBLE FOR SUPPLYING ALL NECESSARY AND REQUIRED PERSONAL PROTECTIVE EQUIPMENT FOR ITS EMPLOYEES AND ITS SUBCONTRACTORS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR INSURING THAT ITS EMPLOYEES AND THE EMPLOYEES OF ITS SUBCONTRACTORS ALWAYS WEAR AND USE ALL NECESSARY AND REQUIRED PERSONAL PROTECTIVE EQUIPMENT.

Contractors must determine minimum personal protective equipment (PPE) requirements for the site before beginning the work. Contractors may be required to wear additional PPE or use additional safety devices to accomplish their work. Contractors are responsible for selecting and maintaining required PPE and devices as well as ensuring that their employees are qualified to use all required equipment.

Eyes and face

- A. Safety glasses with side-shields meeting ANSI Z87.1 standards are required.
- B. The Contractor is responsible for determining appropriate additional eye and face protection based on the anticipated hazards and accepted industry safe practices for the materials being used. Special purpose protection is required for particular exposures such as welding, burning, cutting, chipping, grinding or handling hazardous chemicals.

XIV. Personal Protective Equipment (Head, Eye, Foot, Ear, etc.) (continued)

Head

Hard hats complying with ANSI Z89.1 are required and must be worn in areas where there is a possibility of head injury from impact, falling objects, or electricity. All hard hats will be worn in conformance with the manufacturer's recommendations.

Ears

Hearing protection is required where posted and in areas where noise levels exceed 90 dBA.

Foot

Industrial quality, work-boots shall be worn at all times; safety shoes with steel toes are preferred. Athletic-type tennis shoes of any type will not be allowed in the construction work area. The Contractor is responsible for determining the need for additional foot protection such as toe or metatarsal protection.

Respiratory

- A. The Contractor must advise the Project Manager & EHS of any work that may generate airborne contaminants in concentrations requiring the use of respiratory protection.
- B. The Contractor is responsible for evaluating the employee atmosphere and determining the best method of exposure control.
- C. Engineering controls, such as ventilation at the source, fans and air movers, should be used to control airborne contaminants. If it is not possible to control vapors and fumes below the applicable levels, then respirators must be worn by exposed employees.

Other

The Contractor is responsible for determining the proper glove and clothing protection based on the known or anticipated exposure, i.e., high voltage or chemical handling, etc.

XV. Radioactive Material

No radioactive materials, ionizing or class 1 lasers may be brought onto campus property without the approval of the Project Manager. Consult with UTHSC-H EHS for specific rules regarding the handling and storage of such materials on site.

XVI. Roof Access

- A. The Contractor and the Project Manager must analyze the scope of the work and safety measures before the roof is accessed.
- B. The areas to be accessed during the work must be inspected to ensure that they are safe before entry.
- C. Before each shift, the Contractor must receive permission from the Project Manager to access the roof.
- D. Appropriate fall protection systems must be utilized if work takes place within 6 feet of a leading edge, unprotected skylight or other floor opening. A guardrail system, safety net system, or personal fall arrest system are appropriate fall protection systems. See the section “X” Specific Procedures, on “Fall Protection” in this contract.
- E. Rooftop hazards such as load bearing considerations and machine guarding issues should be considered prior to roof access.

XVII. Scaffolds

- A. The Contractor is responsible for selecting, installing and maintaining scaffolds used on site for the contracted work. Due to the potential hazards associated with the use of and/or exposure to work being performed on a scaffold, the Contractor shall take appropriate precautions while erecting, securing, utilizing and removing the scaffolding. Personnel working under the scaffold will be kept to a minimum and provided appropriate protective equipment.
- B. If pedestrian traffic is anticipated in the immediate area, proper barricading will be placed to create a buffer zone, which directs the pedestrian traffic a safe distance away from the work area. The size of the buffer zone created by the barricades will be determined by the height of the scaffolding, the work being performed, and other site-specific risk factors such as wind conditions or building design. Where adequate sizing of the buffer zone is limited due to site conditions, a covered walkway of sufficient construction to protect the pedestrian traffic will be provided by the Contractor.
- C. The use of scissor lift or other mobile scaffold equipment may create the same hazardous conditions as fixed scaffolds and will follow the same requirements as above. **If any work requires a person to extend beyond the rails of the lift, then fall protection shall be utilized.** See “Industrial Vehicles Safety” for additional information.

XVIII. Storage Areas

- A. Equipment, material and vehicles should be properly stored in assigned areas as directed by the Project Manager.
- B. Each Contractor is responsible for the maintenance of its assigned storage area.
- C. Material must be stacked, stored, or spotted so it can be reached readily by personnel and material handling equipment.

XIX. Structure Loading

- A. Contractor shall not load structures with weight that will exceed the load limit of the structure.
- B. The Contractor must check with the Project Manager for all load ratings.
- C. The Contractor must know the capacities of its equipment and weights of load.

XX. Tools and Equipment Trenching (Electric, Gas, Hand, Pneumatic and Powder-Actuated)

All Contractor tools and equipment brought into the UTHSC-H construction site must be maintained in a safe operating condition.

The Project Manager or EHS personnel may inspect Contractor's tools and equipment at any time.

Electric power tools

- 1. The Contractor is responsible for assuring that all power tools used by its personnel and subcontractors are utilized appropriately and maintained properly. All tools and associated equipment must be inspected prior to use.
- 2. Any questionable tools (and power cords) identified during the performance of the job are to be repaired or replaced immediately.
- 3. Power tools shall not be operated without proper training, instructions, and guarding.

XXI. Tools and Equipment Trenching (Electric, Gas, Hand, Pneumatic and Powder-Actuated) (continued)

Electric power tools (continued)

4. Portable electric equipment and tools must be grounded, unless they are the “double insulated” type.
5. Ground Fault Circuit Interrupters are required for tools used in wet areas.
6. All Contractor power tools must be double insulated or properly grounded.

Gasoline-powered tools

1. All gasoline-powered tools and equipment must only be used in well-ventilated areas. Contractor is responsible for notifying the Project Manager if the use of gasoline powered equipment will occur indoors.
2. Under no circumstances should the gasoline tank be replenished while the engine is running. Any gasoline spilled on the tank or engine should be carefully wiped off before starting the engine.
3. Mufflers should be maintained in a good condition.

Hand tools

1. The Contractor is responsible for assuring that all hand tools used by its employees and subcontractors are utilized appropriately and maintained properly.
2. Hand tools must be inspected daily by the Contractor or its representative.
3. Any questionable tools identified during the performance of the job must be immediately repaired, replaced or removed from service.

Pneumatic

1. The Contractor is responsible for assuring properly constructed hoses are utilized and that proper coupling devices and pneumatic tools are used.
2. Compressed air shall not be used for cleaning persons or clothing.
3. Compressed air used for cleaning workbenches, machinery or other equipment must be reduced to less than 30 psi when dead-ended.

XXII. Tools and Equipment Trenching (Electric, Gas, Hand, Pneumatic and Powder-Actuated) (continued)

Powder-actuated tools

1. Only Qualified Persons who have been authorized by permit shall be allowed to operate powder-actuated (explosive) tools.
2. All powder-actuated tools shall be inspected daily before use and all defects discovered before or during use shall be corrected.
3. Tools shall not be loaded until immediately before use. Loaded tools shall not be left unattended.

XXIII. Trenching

See "Excavations" in Section "X".

XXIV. Warning Signs

- A. Obey all warning signs.
- B. Fully informative and legible signs appropriate to site hazards created during the Contractor work shall be placed on barricade stands, posts, or other suitable stanchions before work starts, and be removed promptly upon completion of work.

XXV. Waste (Non-Hazardous Waste, Scrap, Rubbish, Hazardous Waste and Disposal Chutes)

Consult the Project Manager & EHS for any waste disposal questions regarding the location of the proper containers.

Disposal chutes

1. Whenever materials are dropped more than 20 feet to any exterior point of a building, an enclosed chute shall be used.
2. When debris is dropped through holes in the floor without the use of chutes, the area where the material is dropped and the area below shall be enclosed with barricades to protect area personnel.
3. Warning signs of the hazard of falling material shall be posted at each level.

XXV. Waste (Non-Hazardous Waste, Scrap, Rubbish, Hazardous Waste and Disposal Chutes) (continued)

Non-hazardous waste (construction debris)

1. The burning of trash and construction debris is prohibited.
2. Place all trash, waste, and scrap in proper containers.
3. All scrap lumber, waste material and rubbish shall be removed from the immediate work area as the work progresses.
4. Scrap, waste, and debris must be disposed of as needed; at minimum, these materials must be disposed of at the end of each shift.
5. All storm water inlets affected by the project, shall be protected by an adequate filtering material, inspected weekly and all repairs conducted immediately.
6. Containers shall be kept covered or closed except when material is being placed in the container.
7. If an accidental spill should occur, notify UTHSC-H EHS and the Project Manager immediately.

Hazardous waste disposal

1. Disposal of combustible waste materials should be in compliance with applicable fire and environmental laws and regulations.
2. All solvent waste, oily rags and/or flammable liquids shall be kept in a fire-resistant covered container until removed from the work site.
3. Any hazardous waste that is generated by the Contractor must be properly managed and disposed of by the Contractor (waste paint, waste solvents, used batteries). This does not include the removal or demolition of materials for which UTHSC-H is responsible. Hazardous waste management and removal of such items must be approved and coordinated by the EHS or its designee.

Corrosive Acids and Caustics

- A. Do not store, handle, apply or use acids or caustics until a proper procedure has been established. Hazardous waste management and removal of such items must be approved and coordinated by UTHSC-H EHS or its designee.
- B. Do not flush chemicals into drains/sewers for any reason.

XXVI. Welding and Cutting

See "Hot Work" section "X".

XXVII Storm Water Pollution Prevention Plan (SWPPP)

The Texas Pollutant Discharge Elimination System, (TPDES), was established on March 5, 2003, by the Texas Commission on Environmental Quality (TCEQ), and expires on March 4, 2008. Until then, TPDES requires the development and implementation of a storm water pollution prevention plan for large construction sites (5 or more acres) and small construction sites (1 acre, but less than 5 acres).

Therefore, prior to any soil disturbance activity commences, a SWPPP will be developed, approved by a license civil engineer, all pertaining permits submitted, and implemented. A qualified inspector shall conduct weekly inspections of the SWPPP. All inspections shall be documented and required repairs done immediately.

The following is a brief example of what a SWPPP should contain;

1) Site Description

- a) A description of the nature of construction
- b) Identify responsible parties for the site
- c) Estimated total area and area disturbed
- d) General location map

2) Controls

- a) A description of appropriate control measures (BMP) to be implemented. (Best Management Practices)

3) Maintenance

- a) A description of maintenance practices for BMP.

4) Inspections

- a) A description of inspection requirements for BMP in disturbed areas.

5) Non-Storm Water Discharges

- a) Identify any non-storm water discharges (i.e. vehicle washing, water line flushing, concrete wash off)

For further information on SWPPP requirements, permits and compliance regulations, consult the local TECQ office.