



ACUME Electrical Contracting WLL

P.O. Box: 7366

Doha, QATAR

# **Environmental, Health and Safety (EHS) Manual**

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# General Safety

## Subcontractor Environment, Health & Safety Plan

### Introduction

Subcontractor Environment, Health and Safety (EHS) Plan provides an administrative structure within which contractors present on the project site shall provide both for the health and safety of them employees and other individuals affected by their activities and for the protection of property and the environment. The Subcontractor EHS Plan does not relieve contractors of any of their traditional or specific legal responsibilities with respect to occupational health and safety or the protection of property and the environment. Instead, the EHS Plan provides for consistency among the various contractors' individual programs; monitoring of contractors' conformance with their individual programs, the EHS Program, and the ACUME Environment, Health and Safety Contractor Requirements; initiation of corrective actions when non-conformances are identified; and administration and reporting to reveal the effectiveness of the EHS Program.

### Environment, Health and Safety Plan Elements:

The EHS Plan includes the following major elements:

- A EHS Plan that will establish safety, health and environmental guidelines and requirements.
- Identification of the minimum requirements for individual contractors' environment, health and safety programs.
- Review of each contractor's environment, health and safety program for conformance with the minimum requirements of a contractor's EHS Program.
- Monitoring of the contractors' activities for general compliance with the EHS Plan and the Contractors' EHS Program requirements.
- Procedures for advising contractors of environment, health and safety violations and issuance of violation notices.
- Procedures for initiating corrective action and back charges to the contractor if he/she does not comply with environment, health and safety violation notices.
- Weekly construction coordination meetings that contractors are required to attend.
- Monthly safety and health reports.
- All ACUME's safety forms or Contractor's equivalent, shall be used to ensure compliance with all aspects of this EHS Plan.

### Project Environment, Health and Safety Plan Administration:

ACUME shall administer and have such authority as described in this EHS Plan, to the Contractor's Environment, Health and Safety Responsibilities and Program Requirements.

### Responsibilities:

The EHS Plan is designed to provide consistent environment, health and safety efforts during construction.

The EHS Plan does not relieve a contractor of his/her contract responsibilities for Environment, Health and Safety, or for complying with any applicable governmental regulations.

Contractors shall be responsible for the health and safety of all persons and property affected by the contractors' performance of the work, including work performed by their contractors. This requirement shall apply continuously during the entire contract period and shall not be limited just to normal working hours.

Contractors shall be responsible for implementation of a written EHS Program (Contractors' Safety Program) to prevent their employees from working under conditions which are unsanitary or dangerous to their health and safety. Contractors' conformance with the requirement to initiate and maintain such a program is mandatory under the provisions of their construction contract.



Contractors shall also be responsible for the administration of the Contractors' Safety Programs and the EHS Plan for their contractors.

Documentation required by this program includes, but is not limited to, that summarized in Appendix A.

Appendix A presents a Form Submittal Matrix that identifies the specific form and the required timing for submittal to ACUME.

## **Program Requirements:**

Contractors' Safety and Health Programs shall meet the minimum applicable requirements of the Occupational Safety and Health Act. In addition, to meet the minimum requirements of the EHS Plan, the following additional requirements shall be a mandatory part of each contractor's EHS Program:

Deliver one copy of the Contractor's EHS Program to ACUME for review.

Conduct contractor/subcontract prequalification measures

Deliver the contractor/subcontractor orientation program which will be presented during craftworker initiation.

Monthly Safety Metrics submittals requirements.

Incident/accident submittal requirements.

The contractors' competent persons shall be the competent persons for each lower tier contractor unless that lower tier contractor identifies an alternate competent person.

Participate in the weekly construction coordination meetings.

Cooperate with ACUME, state, federal, and local agencies concerning safety, health, environmental and property damage matters.

Participate in the implementation of fire control measures as may be appropriate for the protection of individuals and property.

Provide and document training and education to the contractor's employees in the recognition, avoidance, and prevention of unsafe working conditions and unsafe work practices, and in the implementation of emergency procedures.

Maintain accurate environment, health and safety records and statistics, and submit to ACUME by the first of each month.

Provide a system for ensuring that reports required by the Project EHS Plan are submitted to ACUME in a timely manner.

Provide a system for immediately reporting all injuries, accidents, illnesses, fires, hazardous material spills, and unsafe conditions and procedures to the contractor's safety representative **and** ACUME.

Hold and document a system of weekly "toolbox" safety meetings for all contractor employees.

Establish a system to prevent the use of unsafe or defective equipment, tools, materials, or machinery, which includes procedures for tagging and/or locking out and rendering



inoperable such unsafe items.

Provide a system for ensuring that only employees who are qualified by training or experience is allowed to operate equipment, tools, and machinery.

Designate a qualified representative to be responsible for rigging and heavy lifting. A JHA shall be required prior to all lifts. All lifts over 10 tons, multiple crane lifts, and lifts over 75 percent of the crane's rated capacity, will be considered critical lifts with the appropriate planning and approvals. ALL CRANES TO HAVE LOAD/MOMENTUM INDICATORS INSTALLED AND WORKING.

**The following items shall be included in the report:**

Make and model number of the crane or hoist.

Lift radius, boom angle, and boom length, if applicable.

Lifting capacity of the crane or hoist for the particular configuration.

Size and capacity of all rigging.

Weight of object being lifted and associated rigging.

Diagram of lift layout.

Such reports shall be submitted to ACUME for review seventy-two (72) hours prior to the lift.

Establish a documented hazard communication program for the protection of employees who are required to handle or use flammable liquids, gases, toxic materials, poisons, caustics, and other harmful substances. The objectives of the program will be to create an employee awareness of the potential hazards of such substances, the recommended personal hygiene for those exposed to such hazards, the personal protective measures and devices required, and the emergency notification procedures to be used in the event of an accident.

Establish a documented program of instruction for employees who are required to enter confined or enclosed spaces. Instructions shall include the nature of the hazards involved, the necessary precautions to be taken, and the proper use of required protective and emergency equipment. The contractor's program shall include a permit system as outlined in Subsection 1.6.9 of this plan. Establish a documented program for protecting employees from occupational health hazards resulting from airborne dusts, mists, vapor, or fumes; noise; and radiation (ionizing and nonionizing), with emphasis on materials such as lead, asbestos, cadmium, arsenic, or silica. A Job Hazard Analysis (JHA) (refer to Subsection 1.6.1) shall be performed to determine the appropriate steps to control the hazard. The contractor shall use engineering controls wherever possible to eliminate the hazard. If engineering controls are not effective, administrative controls or personal protective equipment (PPE) shall be used.

Provide a written program for employees who require, because of the hazards of the work being performed, the use of PPE.

Establish a system that provides for monthly, documented inspections of all equipment in accordance with applicable federal, state, and local regulations.

Provide written disciplinary procedures equal to or greater than those discussed in Subsection 1.3.2 of this Project EHS Plan. This procedure must include enforcement responsibilities of all supervisory personnel.



Provide appropriate first aid/medical coverage for their employees and submit monthly Injury/Incident Logs to ACUME.

Develop, document, and implement evacuation/emergency plans for medical emergencies, fire, and hazardous material spills. Contractors' programs shall be in compliance with ACUME and the owner requirements.

Develop and implement a Drug Testing Program and background verification as required by the contract documents.

Conduct weekly work area environment, health and safety inspections with written reports shall be made available for audit at any time. Included in the reports shall be deficiencies detected and corrective action taken.

## Environment, Health and Safety Surveillance Policy and Procedures

### Surveillance Policy:

Contractors are responsible for the enforcement of their respective Contractors' Safety Programs, the Project EHS Plan and owner requirements. ACUME will provide surveillance of contractors' activities to observe whether such activities are in compliance with the Project EHS Plan.

### Violation Notification Procedures:

If an apparent violation of a safety or health standard occurs, ACUME will advise the contractor of the violation and direct that the violation be corrected. If there is a conflict between project EHS rules, Contractors' Safety Program rules, the owner requirements, and governmental regulations, the most restrictive shall apply. Contractors shall be informed of the violation by one of the following methods.

#### Occupational Safety and Health Notice of Violation (NOV)

The contractor will be informed of identified violations of safety and health standards by means of an Occupational Safety and Health Notice of Violation (Figure 8 or equivalent). NOV's will be delivered by the most expeditious method to the contractor's onsite construction office/representative.

The contractor shall take corrective action within the abatement period shown on the violation notice or propose an alternate solution within the abatement period given. If corrective action is not taken within the abatement period, work shall stop in the affected location and/or the affected equipment shall not be used until the cited violation is corrected.

After corrective action has been completed, the contractor shall state in writing the corrective action taken, date and sign the original notice, and return it to ACUME.

There are four types of violations:

**Serious** – Any condition or practice which is causing or likely to cause death or serious physical harm to any person.

**Nonseriousness** – Any condition or practice which is not likely to cause death or serious physical harm to any person.

**Stop Work/Imminent Danger** – The existence of any condition or practice which would reasonably be expected to cause death or serious physical harm before such condition or practice can be corrected. This is a



“stop work” situation. All persons shall be withdrawn from the affected area, and no one allowed in such area except those people deemed necessary to correct the condition or practice.

**Stop Work/Noncompliance** – A violation (serious or nonseriousness) described in a notice has not been totally corrected within the noted abatement time, and the abatement time should not be extended. This is a “stop work” situation. All persons shall be withdrawn from the affected area, and no one allowed in such area except those people deemed necessary to correct the condition or practice.

**Imminent Danger Notification:**

If ACUME or owner representative considers a violation to be imminently dangerous to life, limb, or property, the contractor’s representative at that location will be directed to immediately cease work in that area. The imminent danger condition shall be corrected to the satisfaction of ACUME and/or the federal, state, and local requirements before work is allowed to continue.

**Repeated Violations:**

In addition to the above notification procedures, ACUME will notify the contractor’s corporate office if a particular violation is repeated or if the contractor’s field supervision is not cooperative. Such notification to the contractor’s corporate office may be either by telephone or in writing; however, telephone notifications will be followed up with written notification. Repeated non-conformance with the Project EHS Plan and repeated failure to comply with correction directives may result in removal of contractor supervisor/management from the project site or termination of the contract.

**Abatement:**

If the safety and health hazard noted on the Occupational Safety and Health Notice of Violation is not abated within the time period specified and no alternate solution has been proposed by the contractor, ACUME may initiate steps to correct the violation and back charge such expenses to the contractor.

**Notice to Employee of Safety and Health Violation**

Contractor employees who knowingly violate the project’s environment, health and safety rules will be issued a Safety and Health Personal Notice of Violation (PNOV). If any one employee receives three Personal Violation Notices, disciplinary action, which shall include discharge from the project, will result. Employees knowingly or willfully violating project EHS rules shall be subject to discharge without prior warning.

Employers will receive a copy of all PNOV’s issued to their employees.

PNOV’s may be issued to contractor supervisors for not enforcing the Project EHS Program rules with the employees under their supervision.

Employees discharged for violation of Project EHS Plan rules shall not be eligible for rehire for the duration of the project.

**Tagging Equipment Out of Service:**

The procedures for tagging defective equipment, tools, or cords out of service at the project shall be strictly adhered to. If a safety and health hazard is recognized by the contractor, ACUME or an owner representative, the affected equipment will be tagged with a “Danger” tag, immediately taken out of service, and remain out of service until the defect is corrected.

The “Danger” tag shall be removed from the equipment by the contractor representative after corrective action has been completed. The contractor shall state in writing on the tag the corrective action taken, date and sign the tag. Anyone removing this tag before corrective action has been completed may be subject to immediate discharge from the project.



# Project Environment, Health and Safety Program Operation

## Project Environment, Health and Safety Program Manual

ACUME will distribute copies of the Project EHS Plan to all contractors. The contractors shall ensure that all their employees and contractors are familiar with, and abide by, the contents of this manual, including any changes distributed by ACUME

## Project Construction Coordination Meetings

ACUME will schedule project construction coordination meetings weekly and at any other time deemed necessary. The purposes of the meetings, among other things, will be to discuss EHS concerns as they relate to the project, provide for two-way communication between contractors representatives and ACUME, in general, further the Project EHS Program. All contractors are required to attend and participate in meetings.

## Accident/Incident Reporting

Immediately following any injury or incident, all injuries, occupational illnesses, and accidents shall be investigated by the senior contractor representative and reported to a ACUME Project representative. The contractor representative shall complete an Accident Investigation Report. The contractor representative shall submit the completed report to ACUME along with any supportive information such as photographs, witness statements, etc., within 2 working days after the incident occurs. Reports shall be dated and signed by the senior contractor representative.

If a serious injury (see definition below), fatality, property damage, accident, or any damaging fire occurs, ACUME shall be immediately notified regardless of the day or hour per Section 2, Emergency Procedures. This reporting requirement is in addition to the requirements outlined in the above paragraph. A serious injury is defined as any injury that requires medical treatment beyond first aid, any trip to the hospital or doctor's office, or any single incident where two or more employees are injured.

## Fire Protection

### Responsibilities:

Each contractor shall be responsible for fire protection throughout all phases of construction as required by the National Fire Protection Code. Only work procedures which minimize fire hazards to the greatest extent practical shall be used. Fuels, solvents, and other volatile or flammable materials shall be stored in an area designated by ACUME. Good housekeeping is essential to fire prevention and shall be practiced by all site contractors.

Permanent storage of flammable or combustible materials shall be in designated areas. Temporary storage inside buildings is allowed only if the materials are necessary for construction, and all materials are removed from inside at the end of the day.

Fire extinguishers shall be maintained and inspected on a monthly basis.



## **Reporting Fires**

All fires, regardless of size, shall be reported immediately to ACUME

In the event of a fire that cannot be locally controlled by fire extinguishers, the contractor shall follow the project emergency procedures.

## **Specific Requirements**

### **First Aid:**

The Contractors and Subcontractors shall have appropriate and adequate first aid supplies onsite and the first aid supplies shall be accessible for immediate use. Written procedures shall be developed to ensure that first aid supplies are replaced promptly if used, and are missing or depleted.

Sufficient Contractor and subcontractor's personnel shall be available at the work site(s) to render first aid. The first aid personnel shall be appropriately trained and have valid CPR and first aid certifications.

### **Tours and Site Visitors:**

Only visitors authorized by ACUME shall be allowed on a project.

The following guidelines have been prepared as general instructions for the organization, direction and safe conduct of such tours of the Construction Site:

**Escorted Visitors:** While on the job site, non-construction personnel or groups shall be accompanied at all times by an authorized Representative from the Contractor, ACUME, or designee familiar with the job site.

**Notification and Tours:** Personnel tours that do not involve technical inspections need to be cleared through ACUME Superintendent. Allowing a minimum 24-hour advance notice.

**Safety Awareness:** All visitors must be informed, before entering the job site, of the need for careful, orderly conduct and notified of any special hazards that may be encountered. All visitors and tour groups must comply with the safety precautions required, including the use of personnel protective equipment, such as eye protection or hard hats that may be required.





## Site Access Control:

All employees requiring access to the site must:

- Attend the Project Safety Orientation, and Be listed on a Subcontractor drug test certification letter.
- Employees that meet these requirements will be issued a site access badge. This badge shall be maintained on the employee's person at all times. No employee is allowed on the Project site at any time without a valid site access badge, except as provided herein. Job site personnel shall not allow employees to enter the job site without a valid badge.
- In the event that an employee has not completed the requirements for site access, another employee who has a valid site access badge may serve as an escort. Escorted employees must remain with them escort at all times while on the project site. Escorted employees may not perform any work on the project.

## Job Hazard Analysis (JHA)

Contractors shall conduct a JHA on all major work operations, work operations that are particularly hazardous by nature, and those operations requiring special planning. The following list of general activities can be used as a guide to help determine when a JHA is required. *But not limited to:*

1. Excavation and trenching operations.
2. Crane lifts.
3. Lockout / Tagout of electrical and/or mechanical equipment.
4. High voltage electrical work.
5. Inactivating or interruption of life safety systems, critical processes or systems.
6. Demolition in safety sensitive areas or locations (e.g., clean rooms, laboratories, etc.).
7. Demolition of process piping or potentially contaminated materials.
8. Exposure to areas with asbestos, lead or mold hazards.
9. Foundation construction.
10. Concrete work.
11. Structural steel erection.
12. Roofing and decking work.
13. Transmission line construction.
14. Tank, vault, basin, and vessel construction.
15. Mechanical equipment installation.
16. Electrical equipment installation.
17. Insulation work.
18. Painting, coating, and lining operations.
19. Heavy rigging and lifting operations.
20. Chemical cleaning activities.
21. Pressure testing.
22. Start-up and commissioning activities.
23. Hazardous waste remediation.
24. Work in roadways.
25. Confined space work.

### Personnel

Before the start of a work operation that requires a JHA, the appropriate people shall be assembled. The people needed to complete a JHA shall be dependent on the complexity of the work operation being evaluated. As applicable, persons shall be included who have knowledge in the following areas; but, as a minimum, at least one management and one craft employee shall be involved in the process:

- Hazards associated with the work operation.
- Knowledge on the equipment and tools needed to safely perform the work.



- Procedures to perform the work.
- Medimmune EHS Program requirements.
- Chemicals and processes involved.

### **Procedure**

The form is divided into three areas: Sequence of the Job; Potential Hazards; and Recommended Action, Procedure, and/or Equipment. The following shall be considered when completing each section:

**Sequence of the Job** – The job shall be broken down into manageable steps with enough detail to adequately cover the task being evaluated. For example, steel erection can be broken down into several tasks such as steel delivery, offloading, staging, anchor bolt installation, column erection, beam installation, fill-in steel, bolt up, stairs and handrail, grating, etc. These major sections can be broken down into manageable subsections; for example, offloading can be further broken down into the following categories positioning the truck, setting up the crane, selecting the appropriate rigging, rigging the steel, swinging the load, unhooking the rigging, etc.

**Potential Hazards** – For each task identified in the Sequence of the Job section of the JHA form, the hazards associated with the task shall be identified. Typically, each task will have more than one potential hazard listed; for example, hazards created while “positioning the truck” from the example described above would include the load shifting and crushing employees; the truck backing over workers; situating the truck under an overhead powerline, causing a potential electrical hazard; the truck hitting and damaging other equipment and structures, etc.

**Recommended Action or Procedure** – For each hazard identified in the Potential Hazard section of the JHA form, a way to eliminate the hazard shall be described in this section. Emphasis should be placed on time, material, equipment, training, and procedures. For example, the hazard listed in the above example, “the truck backing over workers,” could be eliminated by the following: ensuring that all trucks are equipped with a backup alarm, assigning someone to act as a signal person (that person will need to be trained), requiring the signal person to wear an orange reflectorized vest, etc. Upon completion of the JHA, but before the start of the work operation, the contractor shall submit the JHA to ACUME for review.

Upon approval by ACUME, the contractor shall use the form to ensure that the elements listed are in place before the start of the work operation. The contractor shall also use the form as a training tool to ensure that each employee involved in the work operation is adequately trained on each element of the JHA. Each employee involved with the operation shall initial the JHA as acknowledgement that they have reviewed and understand the information provided on the JHA.

If a situation arises during the work operation that has not been addressed by the JHA, or if a situation occurs that requires an existing element of the JHA to be modified, the contractor shall modify the JHA as appropriate to address the issue. The contractor shall ensure that affected employees are trained on any changes or additions made to the JHA.

### **Housekeeping:**

Contractors shall, at all times, maintain the premises free from accumulations of waste material, trash, and debris caused by their work.

Pre-job planning shall include consideration of housekeeping plans and will also include methods and necessary equipment or tools. The contractors shall instruct their supervisors to maintain good housekeeping.

Each work area shall be cleaned and swept daily, if applicable, by the contractor or as often as



necessary to remove fire and safety hazards discovered through regularly scheduled inspections. All tools, scaffolding, and materials shall be removed from the work area at the completion of the work. All scrap, waste material, and rubbish shall be removed from the work area daily.

Refusal to maintain or negligence in maintaining good housekeeping can result in the following:  
Back charges to the contractor for removal of trash, rubbish, and waste materials from the work area and also for clearing aisles; walkways; and work areas of tools, material, and equipment.

Reports to ACUME Executive Management of inadequate contractor performance.

Suspension of the work until a proper level of housekeeping is achieved, as deemed necessary by ACUME.

All recommendations for improved housekeeping from a ACUME or owner representative shall be acted upon immediately by the contractor in violation.

### **Ground Fault Protection:**

Ground fault circuit interrupters shall be used with all power tools and cords. These shall be used regardless of the power source, including portable and wheel mounted generators. The ground faults circuit interrupter shall be tested before each use.

### **Hazardous Material (HM)**

It is solely the contractor's responsibility to implement and maintain a written Hazard Communication. Contractors shall submit a copy of their written Hazard Communication Program to ACUME before they begin work onsite.

Contractors shall Maintain a Material Safety Data Sheet (MSDS) for any and all hazardous material they bring onsite or for which they are responsible. The MSDS shall be obtained before the material arrives onsite.

If a contractor's work with a hazardous material could affect the health and safety of other contractors' employees, the contractor shall coordinate the work with the other contractors to ensure the health and safety of the contractors' employees.

Contractors shall be responsible for the safe storage, use, and disposal of all hazardous material they bring onsite, or for which they are responsible.

Contractors shall conspicuously label with their company name all containers of hazardous material for which they are responsible.

### **Onsite Storage and Dispensing of Flammable and Combustible Liquids**

The contractors shall strictly adhere to the applicable sections of 29 CFR, Parts 1926.152 and 1926.153, Safety and Health Regulations for Construction, of the Occupational Health and Safety Act and also, applicable environmental regulations.



## Fall Protection

The contractors shall strictly adhere to the OSHA Fall Protection Standard 29 CFR 1926 Subpart M. No person or work operation is exempt from the standard on this project. This includes structural steel erection operations, structural steel connectors, and scaffold erectors. Fall protection is required 100 percent of the time, whether employees are climbing, traveling, or working when exposed to a fall hazard six (6) foot or greater:

**Fall Protection Plan** – Before starting work operations that require fall protection, the contractor shall submit a fall protection plan to ACUME. The fall protection plan shall include, but not be limited to, the following:

- Name of qualified person in charge of the operation.
- Description of work operation.
- List of fall exposures.
- Description of fall protection methods used to eliminate the fall exposures.
- Training and enforcement methods used to ensure employee compliance with the plan.

**Body Harnesses, Lanyards, and Lifelines** – Body harnesses, lanyards, and lifelines shall be used in accordance with OSHA Standard 1926.502 (d), with the following exceptions:

- Full body harnesses shall be used in lieu of safety belts on this project.
- Only lanyards with shock absorbers and locking type snap hooks shall be used.
- At least two lanyards shall be used to provide 100 percent fall protection when employees are moving around obstructions, connection points, or other similar items.

## Scaffold Tagging Procedures

### Intent

The intent of the scaffold tagging procedure is to provide personnel with a scaffold that is complete and constructed in accordance with Project EHS Plan rules and OSHA regulations. If there is a conflict between Project EHS Plan, contractor's Safety Program rules, and governmental regulations, the most restrictive shall apply.

### Compliance

It is the policy of ACUME that all onsite personnel shall comply with this scaffold tagging procedure. Scaffolds not displaying a signed scaffold tag shall not be used. In addition to the procedures contained in this scaffold tagging procedure, all employees are subject to the OSHA scaffold requirements contained in 29 CFR 1926.451.

### Contractors' Requirements

Contractors are responsible for ensuring that their Contractors tag their scaffolds in accordance with the project scaffolding tagging policy.

### Procedure

Scaffold tags shall be provided by the contractor and shall conform to the following color codes and wording.

All scaffolds shall be marked with one of the following tags (Figure 16 or equivalent):

**Green Tag** – This scaffold was built to meet OSHA scaffold regulations; it is safe to use.

**Yellow Tag** – This scaffold does not meet OSHA scaffold regulations; safety harnesses shall be worn.

**Red Tag** – Warning – This scaffold is not complete; **DO NOT USE**.



A competent person designated by the contractor who constructed the scaffold shall inspect the scaffold for compliance with project and OSHA requirements (1926.451), and shall sign his/her name to the tag before allowing anyone to access the scaffold.

All scaffolds that cannot be equipped with standard top rail, midrail, and toe board because of interferences with structures or equipment shall be marked with a yellow tag stating "Body Harness Must Be Used."

Scaffolds that are being constructed, torn down, or that are incomplete shall be marked with a red tag.

### **Responsibilities**

The foreman who constructs the scaffold or has the scaffold constructed is responsible for ensuring that the scaffold is built to project and OSHA standards.

Contractor personnel shall periodically monitor all scaffolds. The auditing shall ensure that all scaffolds are properly tagged and in compliance with project and OSHA standards.

If a foreman wishes to use another contractor's or crew's scaffold, the foreman shall obtain permission to use the scaffold and shall inspect and tag the scaffold before use.

Any employee working from a scaffold that does not have a scaffold tag, or any supervisor assigning employees to work on an untagged scaffold, shall be subject to disciplinary action.

## **Confined Space Entry Procedure**

### **Confined Space Definition**

A confined space is a tank, vessel, silo, vault, pit, open topped space more than 4 feet (1.2 m) deep, pipeline, duct, sewer, or tunnel that meets the following criteria:

- Limited means of egress, and/or
- Not designed for continuous employee occupancy, and/or
- Having one or more of the following characteristics:
  - Less than 19.5 percent or more than 23.5 percent oxygen.
  - Flammable/combustible/explosive atmospheres present or capable of being generated or entering into an area.
  - Toxic atmospheres present or capable of being generated or entering into an area.
  - Areas not protected against entry of water, gas, sand, gravel, ore, grain, coal, biologicals, radiation,
  - corrosive chemicals, or any other substance which could possibly trap, suffocate, or harm a person.
  - Poor ventilation.
  - Restricted entry for rescue purposes.

### **Intent**

The intent of the confined space entry procedure is to ensure that personnel who perform work in a confined space is in compliance with project safety and governmental regulations. If there is a conflict between project safety rules, contractor's Safety Program rules, and governmental regulations, the most restrictive shall apply.

### **Compliance**

It is the policy of ACUME that all onsite personnel shall comply with this confined space entry procedure. All confined spaces shall be authorized for entry by means of a permit. No personnel shall enter a confined space prior to compliance with all permit criteria.

### **Procedure**

Confined Space Entry Permits shall be made available through the contractor representative.

Contractors shall fill out the permit in full, post a copy of the form in a conspicuous location at the entrance to the confined space, and retain a copy for their records.

If there is more than one entrance to the confined space, all entrances shall be posted with a copy of



the permit.

Before entering the confined space, all persons shall be given a briefing as to the precautions that must be taken.

When the work in the confined space is completed, the person authorizing entry into the confined space shall verify that all persons have exited the confined space and that it is safe to remove the permit. The authorizing person shall then sign, date, and write in the time the permit was removed. Contractors shall retain all issued permits for their records. Copies of the permits shall be made available to ACUME for auditing purposes.

## **Trenching and Excavation Notice**

Before contractors commence work on any trench or excavation, a trench and excavation plan shall be submitted to ACUME for review. The plan shall be submitted far enough in advance to allow ACUME ample time to verify the contractor's proposed work plan and/or procedures. The contractor may commence work after receiving approval from ACUME.

For all trenches or excavations over 20 feet deep, the contractor must have the sloping, shoring, or shielding method designed by a Professional Engineer registered in the state. The design must be submitted to ACUME as an attachment to the Trench and Excavation Plan.

The signature by ACUME no way changes the contractor's responsibility for locating all underground utilities and repairing damaged utilities as required by the contract. ACUME shall not be held responsible for the safety requirements for the trench or excavation.

## **Barrier Tape Identification System**

In order to uniformly identify particular hazards on the construction site, a barrier tape identification system has been developed for use by all the contractors working on the project.

This system has been developed so that any employee working on the site, regardless of employer, can recognize and avoid a hazard when properly marked.

The following barrier tape identification system shall be used:

- General--Red tape (may have black in it). "Do not cross--Imminent Danger."
- Electrical--Yellow tape (may have black in it). Open wiring, switchgear, etc. "Do not cross."
- Radiation--Yellow and magenta (purple) tape. Possible radiation hazard, X-ray, etc. "Do not cross."
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The contractor erecting the barrier tape shall hang a tag on the tape that indicates the hazard, duration of hazard, name of contractor, and name and contact information (cell phone, pager number, etc.) of the person erecting the tape.

The barriers shall be erected far enough back from the hazard to allow for adequate warning and protection. The barrier shall be constructed so that it will stand against adverse weather conditions and construction traffic. If the hazard is of a magnitude that requires additional protection, it shall be the contractor's responsibility to provide such protection as well as the barrier tape. It will be the responsibility of the contractor erecting the barrier tape to maintain it as long as the hazard is present.

## **Welding and Cutting Permit**

Contractors shall obtain a Welding and Cutting Permit before welding, cutting, grinding, or performing any other "hot work" in hazardous work areas or in other areas identified by ACUME.



Hazardous work areas are those areas that contain, or have the potential to contain, flammable or combustible materials, gases, dusts, vapors, or liquids.

The contractor requesting the permit shall address each item listed on the permit and resolve any problems before starting the work. The permit shall be issued after satisfactory completion of all items.

The contractor shall maintain a copy of the permit in the work area until the work is completed. Upon completion of the work the Fire Watch shall remain in the area for sixty (60) minutes once the work has been completed. The contractor shall maintain the permit for project record.

## Steel Erection

### Purpose

The purpose of this procedure is to ensure that steel erection activities are being performed in accordance with OSHA Standard Subpart R 1926.750-761 requirements. All contractors associated with steel erection activities, as defined by OSHA, shall develop plans to meet the OSHA requirements as well as the specific steel erection requirements set forth in this manual.

### Fall Protection Requirements

Fall protection requirements as outlined in this plan shall be followed. No employee or work operation is exempt from the 6-foot 100 percent fall protection requirement. This includes connectors, bolt up operations, decking operations, etc. The exemptions set forth in the OSHA standard that allow certain workers and work operations to not utilize fall protection when exposed to falls greater than 6 feet **ARE NOT** recognized or allowed on this project.

### Steel Erection Program Requirements

The requirements listed below are considered minimum requirements and must be followed for all steel erection activities:

A site-specific steel erection plan and a JHA must be provided to ACUME before steel erection activities begin.

This plan must be prepared by a qualified person as defined by OSHA and address at least all of the following:

- Fall protection procedures for the erection process.
- Training of workers involved with the steel erection process.
- Erection sequence.
- Crane selection and placement.
- Crane inspection program.
- Rigging inspection program.
- Site preparation requirements (e.g., adequate access roads, means and methods for pedestrian and vehicular control, site drainage, soil compaction and stability).
- Overhead protection/routing of lifts.
- Critical lift procedures.
- Procedures for steel erection activities (e.g., bracing/guying, connections, decking, roofing, siding, grating, etc.).
- Falling object protection procedures.
- Perimeter fall protection planning and turnover.

Contractors shall complete the Steel Erection Checklist and submit it to ACUME before any steel erection activities begin. The checklist shall be discussed in a specific steel erection meeting that will be coordinated by ACUME. All contractors involved in the steel erection process shall be at the steel erection planning meeting and shall comply with the requirements of this section.

Steel erection activities may not start until ACUME formally notifies the steel erector in



writing that steel erection activities may commence. Notification will be in the form of a letter with an attached verification that anchor bolt repairs and concrete curing requirements have been met.

Areas where a danger exists from the work area above shall be barricaded off by the contractor/subcontractor doing the work above. That contractor/subcontractor is also to maintain the fencing until work is completed. YELLOW WARNING tape or ORANGE FENCING will be used to mark the area where overhead hazards exist. Any unauthorized persons entering an area that has been barricaded with YELLOW WARNING tape is subject to disciplinary action.

#### **Perimeter Guardrail Fall Protection Systems**

The contractor and/or ACUME shall arrange for perimeter fall protection, such as cable guardrails, when the steel erection contractor leaves the jobsite. In order to assume control of the perimeter guardrail system from the steel erection contractor, the ACUME Project Superintendent and the steel erection contractor shall complete an inspection of the perimeter guardrails.

Any deficiencies noted with the perimeter guardrails during the inspection shall be documented. The deficiencies shall be corrected by the responsible party. After the deficiencies are corrected, ACUME shall approve the corrective actions taken. If a contractor damages the guardrail system, that contractor must make repairs immediately.

## **Demolition-Related Hazardous Materials Protection Program**

### **General**

At ACUME, employee health and safety is a primary concern on every project. In support of that goal, ACUME strives to limit employee exposure to hazardous materials (lead, asbestos, heavy metals, etc.) encountered during demolition activities that disturb previously installed building materials.

To accomplish this task, ACUME will coordinate with the owner to evaluate, sample, test, remove or abate the hazardous materials that may pose a hazard as a result of exposure and/or contact involving demolition activities. ACUME will request, in writing, certification by a qualified party that the work areas affected by demolition are free of demolition-related hazardous materials to a degree that removes ACUME and its subcontractors, where practical, from application of the relevant governmental employee protection regulations.

Upon the receipt of certification, ACUME will verify the adequacy of the report. In recognition that some demolition-related hazardous materials may be overlooked by either of the parties, and to minimize and mitigate unexpected releases or exposures to those materials, employees may require awareness training to recognize and avoid demolition-related hazardous materials that may be present on the job.

If contractors are hired and are potentially exposed to the materials, specific programs are to be developed by the contractor which ensure that material identification and handling are executed in accordance with this procedure and with applicable governmental regulations.

### **Worksite-Specific Procedure**

This procedure is supplemental to any ACUME procedure already in place. The worksite specific procedures will be updated as necessary to reflect changes in workplace conditions that may affect the Demolition-Related Hazardous Materials Protection Program.

## **Demolition-Related Hazardous Materials Protection Program**





## Awareness Training

All ACUME employees or ACUME contractors, including lower tier contractors, involved in or potentially affected by demolition activities will receive the following training at the time of orientation training:

- The methods of recognizing building materials that contain demolition related hazardous materials.
- The requirement to stop work if a demolition-related hazardous material is suspected.
- The requirements for reporting potential demolition-related hazardous materials to the ACUME responsible party.
- The ACUME methods of labelling or posting potential demolition-related hazardous materials for identification purposes.

## Pre- task Activities

Before any work or task commences, the contractor's supervisor responsible for the work, ACUME representative(s) responsible for the work, ACUME consultant (if applicable), Project representative, and a worker shall perform a walkthrough of the planned demolition area to assess and identify any potential for the, presence of demolition-related hazardous materials. Variations to this list of individuals are allowed, depending on the nature of the work and the timing of the inspection.

A safety meeting shall be held to inform employees of the efforts made to identify and remove potential demolition-related hazardous materials. The likely sources of those materials, the means to avoid the hazards, and the means to report a potential hazard will be reviewed. A copy of the safety meeting shall be forwarded to the ACUME.

Any discovery of, or potential for, suspect demolition-related hazardous materials must be forwarded to the ACUME so that identification and abatement can be initiated.

ACUME will provide a report, upon receipt from the owner any documentation certifying that the areas impacted by the planned demolition are free of demolition-related hazardous materials and will pose no hazards as a result of demolition activities.

Before any work or task commences, the contractor's supervisor responsible for the work, the ACUME representative(s) responsible for the work, and a worker shall perform a second walk-through of the planned demolition area to assess and identify any remaining potential for the presence of demolition-related hazardous materials following the abatement activity.

All employees working in an area where demolition activities are taking place shall receive demolition related hazardous materials awareness training that covers recognition and avoidance of such hazards.

The training will be documented, with a copy forwarded to ACUME.

## Emergency Response

Upon discovery or accidental release of suspected demolition-related hazardous materials from previously installed building materials, all work shall cease and the employees shall leave the area.

The employees will notify their supervisor. The supervisor will see that a ACUME representative is notified.

The supervisor shall barricade the suspect area on all sides plus 25 feet to restrict access and eliminate further spread of the possible contamination.

Work will not resume until ACUME has documented assurance that the area is clear of any



potential demolition-related hazardous materials.

## Identification of Demolition-Related Hazardous Materials

The following lists are provided to help individuals identify potential demolition-related hazardous materials, in accordance with the ACUME Demolition-Related Hazardous Materials Protection Program.

These lists are not to be considered all-inclusive and may not specify all materials that may be encountered on all jobsites. Further analysis for specific demolition-related hazardous materials may be needed on a case-by-case basis. Additions may be added to these lists for project-specific hazards.

### Identification List of Materials That May Contain Asbestos

The following materials may contain asbestos:

- Acoustical plaster.
- Adhesives.
- Any material that is marked using the phrase “stops.”
- Asphalt floor tile.
- Back of electrical panel waffle board.
- Base flashing.
- Blown-in insulation.
- Boiler insulation.
- Breaching insulation.
- Caulking/putties.
- Ceiling tiles and lay-in panels.
- Cement pipes.
- Cement siding.
- Cement wallboard.
- Chalkboards.
- Construction mastics (floor tile, carpet, ceiling tile, etc.).
- Cooling towers.
- Decorative plaster.
- Ductwork flexible fabric connections.
- Electric wiring insulation.
- Electrical cable.
- Electrical cable marked with “Rock bestows.”
- Electrical cloth.
- Electrical panel partitions.
- Elevator brake shoes.
- Elevator equipment panels.
- Expansion joints.
- Fire blankets.
- Fire curtains.
- Fire doors.
- Fireproofing materials.
- Flooring backing.
- Grout material.
- Heating and electrical ducts.
- High temperature gaskets.
- HVAC duct insulation.
- Interior fire doors.
- Joint compound in older homes/buildings.
- Joint compounds.
- Laboratory gloves.



- Laboratory hoods/table tops.
- Lightweight concrete.
- Packing materials (for wall/floor penetrations).
- Pipe insulation (corrugated air-cell, block, etc.).
- Power cable insulation.
- Putty caulks and cements (such as in chemical-carrying cement pipes).
- Roofing felt.
- Roofing shingles.
- Siding on old residential buildings.
- Speckling compounds.
- Spray on insulation barrier-clay mastic.
- Spray-applied insulation and fireproofing.
- Taping compounds (thermal).
- Textured paints/coatings.
- Thermal paper products.
- Transit duct bank.
- Vinyl floor tile.
- Vinyl sheet flooring.
- Vinyl wall coverings.
- Wall penetrations-clay mastic.
- Wall veiling texture in older buildings/homes.
- Wallboard.
- Water diverter panels.

#### **Identification List of Materials That May Contain Heavy Metals (Lead, etc.)**

The following materials may contain heavy metals:

- Lead-based paint and coatings (usually found on structures such as tanks, vessels, and equipment; also, may be found on pipes, structural steel, walls, ceilings, ductwork, noise control materials, handrails, steps, etc.).
- Additionally, lead, as well as other potentially harmful heavy metals, may be found in batteries, solder, pottery glaze, window glazing, water and sewer piping, gasoline, cable coverings, stainless steel, high-pressure steel, cadmium coated bolts, fluorescent bulbs, mercury vapor lamps, emergency lighting lamps, etc.
- Lead-based paint was widely used in industrial environments to help the coating resist corrosion. In 1978, the Consumer Product Safety Commission (CPSC) banned lead in paints for residential use.
- Lead-based paint is more prevalent in the industrial community, especially in older facilities.
- Ash/fly ash may contain lead, as well as other heavy metals such as arsenic, cadmium, cobalt, etc.
- Ash and fly ash are commonly found in incinerators and burners that use various products as fuel. If ash is encountered or suspected to be encountered, testing of the ash shall be conducted to identify its makeup and the concentrations of heavy metals.
- Sludge may also contain heavy metals. If sludge is encountered or suspected to be encountered in the demolition or construction process, testing of the sludge is necessary to identify concentrations of heavy metals in the product.



## **Lockout/Tagout Clearance Procedures**

### **Requirements**

Contractors shall establish a program consisting of energy control procedures, employee training, and periodic inspections on contractor-owned machinery and equipment to ensure that, before any employee performs work where the unexpected energization, start up, or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered inoperable.

The use of both tags and locks shall be included in the contractor's program. As required by project conditions, the contractor shall coordinate the use of a project specific lockout/tagout procedure for all work on permanent plant equipment and interface work with the Owner's existing facilities.

## **Project Environment, Health and Safety Rules**

### **Policy**

In addition to other requirements of this Project EHS Plan, the owner has established mandatory Environment, Health and Safety rules. Contractors shall ensure that their employees receive training and understand the Project EHS Rules and are familiar with these rules and the possible penalties for violations. Mandatory Project EHS Rules may be added or deleted from this Project EHS Plan as deemed necessary by ACUME. Revisions or additional rules will be sent to each contractor. Upon receipt, the contractor will be responsible for informing each of his or her employees and contractors of the revised or additional rules.

### **Mandatory Project Environment, Health and Safety Rules**

The Project EHS Plan rules are adopted for the protection of persons involved with the construction of this project. These rules apply to management, Owner, contractor personnel, and visitors while on the jobsite. These rules are general in nature and are not to be considered all-inclusive; nor do they relieve ACUME, contractors, or their employees from applicable Occupational Health and Safety regulations promulgated by governmental authorities.

## **Safety Policy Memorandum**

From time to time, as the need is identified, ACUME may issue safety policy memoranda that affect the entire project.

Safety policy memoranda will be identified by a number and a specific safety subject, such as Safety Policy Memorandum 1 (Scaffolding).

Safety policy memoranda will be issued to all persons who have received a Project Safety Orientation.

They are to be inserted as new pages at the end of this section.

The person responsible for the receipt and maintenance of the Project EHS Plan shall also be responsible for informing his/her firm's employees and Contractors of the contents of the safety policy memoranda.



# Emergency Procedures

## Project Emergency Response Procedures

In order to facilitate a prompt and orderly response to site emergencies, contractors shall comply with the emergency procedures outlined in this section.

### Introduction

In any emergency situation, the emergency response will take the form of an Incident Command System (ICS).

The ACUME, Project Superintendent will assume the role of Incident Commander. If this individual is unavailable, the next highest-ranking ACUME Representative would assume the role. In the absence of any ACUME personnel, the contractor shall implement the system.

All personnel on the project shall obey the Incident Commander's every command no matter who assumes the role. Incident command will be relinquished to any trained emergency responder arriving at the scene, including any ACUME Environment, Health and Safety staff or Emergency Services agency.

Contractor personnel shall assist only as directed by the Incident Commander. The Incident Commander may ask for equipment to assist in the emergency. In this case, the contractor shall provide any necessary equipment. Contractors will not be compensated for any downtime or lost production for any emergency situation.

At no time shall the contractor address media concerning an onsite emergency. This shall be done only by ACUME or owner official(s).

### Medical Emergency Response

If a minor injury occurs which requires first aid services, the contractor shall alert ACUME immediately. Once the first aid attention has been addressed, the information shall be entered onto the Incident Log sheet. The contractor shall also be responsible for the completion of an Accident Investigation Report.

If the incident or injury requires the services of a paramedic or ambulance the contractor will call facility security and/or 911 and provide all applicable information to the dispatcher. Do not hang up until instructed to do so.

During normal working hours, the contractor shall alert the ACUME Project Superintendent. If the Construction Project Superintendent is unavailable, the ACUME Project Manager will be notified. If the injury occurs after hours, the contractor shall alert the onsite ACUME Representative.

The individual should be prepared to relay the following information:

- Type of emergency.
- Severity of emergency.
- Specific location of emergency.
- Name and telephone number of the person making the call.

The individual shall not break communication until directed to do so.

Contractor, Security and other site personnel may be required to escort emergency vehicles to the emergency scene.



## Fire and Hazardous Material Response Plan

If a fire or hazardous material spill occurs, the contractor shall use an in-house emergency notification system to alert the contractor's supervisors of the situation. Depending on the site-specific protocol, the notification system may include portable air horns, emergency signal lights, emergency signal horns/bells, or a combination of any of these.

Minor Emergency – If it is safe to do so and if the contractor's employees have been properly trained, they should assess the situation and extinguish the fire or clean up the spill. The contractor shall then report the incident to ACUME.

Major Emergency – During normal working hours, or after hours, the contractor shall alert ACUME Project Superintendent and inform of the situation. The individual should be prepared to relay the following information:

- Type of emergency.
- Location.
- Severity of emergency, including injuries.
- Name and telephone number of the person making the call.

ACUME Project Management shall assemble and determine if the emergency is of a magnitude that requires an evacuation of construction employees.

The construction work force shall be notified to evacuate by direct communication from ACUME through the use of site radios and telephones and the in-house emergency notification system. Upon hearing the announcement, all personnel shall report to the project specific site evacuation area unless otherwise directed by ACUME.

Contractors shall account for their personnel and report any missing person(s) to the senior ACUME representative.

All personnel shall remain in these evacuation areas until released by the Incident Commander.

Any small chemical spill shall be cleaned up immediately if there is no hazard to those cleaning the spill.

The person who cleans the spill shall notify his or her supervisor, who, in turn, will notify ACUME. The supervisor/safety representative shall see that the material is properly disposed of. The spill shall be reported to the ACUME Project Superintendent as soon as possible, but no later than 24 hours after the spill.

Any major chemical spill shall be immediately reported to the ACUME Project Superintendent. The spill shall be contained as much as possible. The Incident Commander shall determine what emergency assistance is required to control or clean up the spill. The contractor responsible for the spill shall be solely responsible for the proper clean-up and may be back charged for the associated costs.

The clean-up efforts may be directed by the ACUME Project Superintendent or designee. In any spill, immediate steps shall be taken to control the spill and prevent contamination of the local environment.



## **Large Scale Catastrophic Events**

A large scale catastrophic event can be generally considered to be an incident where a large portion of the construction site is affected, or an incident that results in injuries to multiple people.

If a major incident occurs, the contractor shall use an in-house emergency notification system to alert the construction site of the situation. Depending on the site-specific protocol, the notification system may include portable air horns, emergency signal lights, emergency signal horns/ bells, or a combination of any of these.

## **Specific Items**

### **Fire / Hazardous Materials Evacuation Muster Points**

- Contractor Parking
- Post people at exit to ensure people stay for head count

### **Major Catastrophes Evacuation Muster Points**

- Contractor Parking
- Post people at exit to ensure people remain for head count

### **Bomb Threat Evacuation Muster Points**

- Contractor Parking
- Post people at exit to ensure people remain for head count

### **In all cases:**

It will be each contractor's responsibility to assemble and account for all his/her employees in the established evacuation area. Any contractor who finds that an employee is missing shall notify the ACUME Project Superintendent. The Project Superintendent shall assemble a team to search for the individual in the area that he/she was last seen, or in his/her work area. All other personnel shall remain in the evacuation area until released by the ACUME Project Staff.

The "all clear" will be communicated at the muster locations.





