

ESH

Environmental, Safety & Health
Handbook for Suppliers



Important TI Phone Numbers

Dallas/Fort Worth, TX

Security Communication Center	214-429-2222
or from an internal phone	2222
Security (non-emergency).....	214-429-2287
Hearing Impaired TTY	214-429-2000
Badge Room.....	214-429-2206

Lehi, UT

Security Communication Center	801-767-7777
or from an internal phone	7-7777
Security (non-emergency).....	801-767-6543

Sherman, TX

Security Communication Center	903-487-3333
or from an internal phone	2222
Security (non-emergency).....	903-487-3322

Sugar Land, TX

Primary	911
Security (secondary).....	214-429-2287

South Portland, ME

Security Communication Center	207-618-4222
or from an internal phone	2222
Security (non-emergency).....	207-618-4200
or from an internal phone	2200

Santa Clara, CA

Security Communication Center	408-721-3974
or from an internal phone	1-6000

Tucson

Primary	911
Security (secondary).....	408-721-3974

All Others

Call 911, and then call 214-429-2222 to report the incident, no matter how minor.



Environmental, Safety & Health Handbook for Suppliers



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Texas Instruments Environmental, Safety & Health Policy and Principles

Texas Instruments Incorporated is committed to:

- Safe and healthy working conditions
- Protection of the environment
- Fulfillment of our compliance obligations
- Assessment and reduction of ESH risks
- Continual improvement of its operations

This commitment includes the involvement of leadership, consultation and participation of employees and the setting and tracking of relevant objectives for TI operations.

Texas Instruments ESH principles:

- Leadership and Employee Commitment and Accountability
- Risk Assessment of Activities and Processes
- Natural Resources, Water and Energy Stewardship
- Emergency Preparedness
- Product Stewardship
- Supplier and Contractor Relationships
- Public Information and Influence on Public Policy

Purpose

The purpose of the Texas Instruments (TI) Environmental, Safety & Health (ESH) Handbook is to provide suppliers a summary of TI's standards, policies, guidelines and general practices.

This Handbook is meant to be a pocket reference of basic ESH requirements that must be followed by suppliers while working on TI property, or on behalf of TI. It does not contain the complete, detailed requirements for each situation outlined in the Handbook and is not intended to be a substitute for compliance with the law, TI standards and policies, or the supplier's contract with TI. Suppliers are required to comply with all applicable laws and regulations, TI's written ESH standards and policies, and the terms of their contracts with TI.

Contact your TI Supplier Manager for specific direction when needed.

If any policy in this Handbook conflicts with or is different from the supplier's contract, the terms of the contract shall apply. If something in this Handbook conflicts with any federal, state or local law or regulation, contact the TI Supplier Manager. Suppliers must comply with the law regardless of the terms of this Handbook.

The “**PAUSE**” program emphasizes the importance of last-minute hazard assessment.

- P**ause – Take a moment before you act
- A**ssess – Determine the hazards of the task
- U**nderstand – Know the requirements of the task
- S**olve – Develop actions to mitigate risk and hazards
- E**xecute – Proceed after all safety measures have been taken

If something doesn't seem right... PAUSE. Anyone has the authority to stop a job right then and there, allowing the opportunity to step back and re-assess safety, reliability or quality concerns.

Workers are encouraged to **PAUSE** prior to beginning work, taking a moment to reflect on the job task, creating one last conscious opportunity to take the necessary precautions to mitigate any present or potential hazard.

Use the Pre-Task Hazard Assessment as a reminder of the potential hazards you may encounter.

STOP THE WORK if the hazard cannot be mitigated.

Pre-Task Hazard Assessment

What kind of hazard exposures will be posed while performing this work?

- Chemical or Gas
- Adequate Clearance to Avoid:
 - Struck by/Against
 - Caught Between
- Hazardous Energy
- Slips/Trips/Falls
- Thermal/Heat Hazards
- Cuts/Lacerations/Abrasions
- Fire and/or Flash
- Ergo
 - Lifting/Exertions
 - Routine Work w/Discomfort
 - Awkward/Static Positions

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Section 1 General Information

Scope

This Handbook summarizes environmental, safety and health (ESH) situations that may be encountered, and procedures that must be followed while working on TI property or on behalf of TI.

General Terms

Competent Person – A person designated by the supplier who is qualified and capable of identifying existing and predictable hazards or unsanitary, hazardous or dangerous working conditions. The Competent Person has the responsibility and authorization to take prompt corrective measures to eliminate these hazards or conditions.

Environmental Aspects – Activities, products or services by or from an organization that can interact with the environment.

Note: *A significant Environmental Aspect has or can have a significant Environmental Impact.*

Environmental Impacts – Changes to the environment whether adverse or beneficial, wholly or partially resulting from an organization's Environmental Aspects.

Qualified Person – One familiar with the configuration and operation of equipment and the hazards involved. Classroom and/or on-the-job-training as described in OSHA r

Safety and Health Risks – A combination of the likelihood and consequence(s) of a specified event occurring.

Services – Work performed for or on behalf of TI, including construction and sustaining activities, repair, maintenance and installation of equipment and systems, and supplemental labor activities.

Suppliers – Companies, providers, contractors and individuals (and their employees, subcontractors and agents) under contract or purchase order with TI to supply goods, services or supplemental labor.

Supplier ESH Representative – A Qualified Person, as defined by OSHA, designated by a supplier to be responsible for the supplier's compliance with regulatory and TI's ESH requirements.

TI ESH Representative – A TI representative responsible for overseeing and managing the ESH aspects of the services.

TI Supplier Manager (Sponsor) – A TI representative responsible for overseeing and managing the supplier and/or service, including facilities personnel who oversee sustaining services, construction project managers and engineers, and fab equipment engineering personnel who oversee tool installation, maintenance and repair services.

Overview of ESH Expectations

Suppliers are responsible for their actions

Suppliers are responsible for their own actions while working at TI. This Handbook states the conduct expected of a supplier while working on TI property or on behalf of TI.

Suppliers must comply with the law

Suppliers and their personnel are responsible for complying with the law while working on TI property or on behalf of TI.

Suppliers must follow TI ESH Standards

Suppliers shall comply with, and ensure that supplier personnel comply with TI ESH Standards. TI ESH Standards are those TI ESH procedures, specifications, standards, guidelines and handbooks, applicable to the work that TI may furnish to the supplier from time to time, including updates, revisions or modifications. It is the supplier's responsibility to obtain copies of TI ESH Standards pertinent to the work, and suppliers must comply with the more stringent of either the TI ESH Standards or applicable ESH laws. The supplier is responsible for translating any and all of TI's ESH requirements to employees who do not speak or read English.

Suppliers must comply with the TI Supplier Code of Conduct

Suppliers shall comply with TI's Supplier Code of Conduct regardless of local business practices or social customs, as it establishes the minimum requirements for doing business with TI.

Suppliers must follow TI's Safety Cardinal Rules

TI has established a set of "Safety Cardinal Rules" intended to help all TI employees and suppliers avoid injury and maintain a safe workplace. The rules are a TI requirement and include:

- Correct or report unsafe behaviors and conditions
- Report all injuries, discomfort and near misses immediately
- Act safely, follow procedures & wear required PPE
- Do not bypass safety systems or machine guards
- Only perform tasks for which you are trained

Protecting the Environment

TI expects all suppliers working on site to share TI's concern for the environment. Suppliers are expected to follow applicable laws and TI policies and procedures that may be more stringent than local, state or federal laws.

Supplier ESH Representative

TI is committed to providing the highest level of safety and reliability at our sites and on our projects. While we must all actively work to assess and reduce risk, constant awareness and supervision is crucial. One of the most important resources in this effort is the Supplier ESH Representative. Suppliers must designate an ESH Representative to manage the ESH aspects of work performed. TI shall be informed, in writing, of the name and qualifications of this person before work begins. Supplier ESH Representative presence at the work site while work is being performed shall be in accordance with the contract SOW, unless otherwise agreed upon in writing.

Supplier ESH Programs

Upon request, suppliers are required to submit documentation of their environmental, safety and health programs to their TI Supplier Manager or TI ESH Representative. TI reserves the right to suspend or delay work until the supplier's ESH program meets or exceeds TI's requirements. The supplier is responsible for communicating its ESH program and the contents of this Handbook to its employees who are working on TI property or on behalf of TI.

Prior to beginning work at any TI site, suppliers must perform and document an ESH assessment that includes a job hazard analysis to perform the work in a manner that protects the safety and health of people, property and the environment. Refer to the Job Hazard Assessment section on page 56 of this Handbook for further guidance.

ESH Awareness

Safety is a condition of employment at TI. Suppliers will work with their TI Supplier Manager to become familiar with work area hazards, Safety Data Sheets (SDS) and safety equipment. Suppliers are expected to be proactive and share the initiative and problem solving on TI projects. The TI Supplier Manager should be made aware of better, safer or more efficient ways to do business. In accordance with TI's Safety Cardinal Rules, each individual has the responsibility for their own safety, as well as for helping coworkers, TI employees and other suppliers be safe by pointing out potentially unsafe acts to them, or by notifying their supervisor, Supplier ESH Representative, or TI Supplier Manager (e.g., failure to wear proper PPE). Suppliers shall become familiar with any building-specific safety policies (e.g., Distracted Walking Policy) by working with the TI Supplier Manager or TI ESH Representative.

Supplier Incident Reporting

Suppliers must maintain an OSHA-compliant employee incident, injury and illness reporting system and employee injury prevention program. Refer to page 15 of this Handbook for incident reporting instructions.

Clean Room Protocol

Due to the unique nature of wafer fab clean rooms, suppliers will be required to follow proper clean room protocol. TI-specific training and badges are required for entry into the clean room.

Project Direction

The TI Supplier Manager is the point of contact for coordinating and communicating work at TI. This person is knowledgeable of TI employees responsible for particular ESH matters addressed in this handbook.

Business Interruptions

Suppliers must coordinate with the TI Supplier Manager before work is performed on facilities systems and follow applicable TI work permit processes. Refer to the Work Permits section on page 68 of this handbook.

Only a Tler may manipulate facilities systems (e.g. turn valves, toggle switches). Facilities systems include, but are not limited to, chemical and gas distribution systems, electrical systems, exhaust systems, HVAC systems, fire sprinklers, and life safety systems.

Understand Facilities and System Impact

Be aware of surroundings and the potential impact of the work being performed. It is the supplier's responsibility to know and understand the systems on which work is being performed. Suppliers causing interruptions to operations may be held financially liable for damages.

Quality Control

Suppliers are expected to partner with TI to ensure work quality. Make the TI Supplier Manager aware of quality issues that may have been overlooked in the design and specification phase or that could improve quality, safety and reliability. Point out any conflicting requirements, documents, utility drawing errors and needed revisions, etc.

Ownership

Suppliers share ownership in a project's success and may be part of the project team from design through closeout. TI Supplier Managers may require suppliers to be on design teams or ESH committees related to the project delivery process. Supplier participation makes these teams successful.

Code Compliance

Suppliers are resources to TI for local fire and other code compliance. Notify the TI Supplier Manager of code compliance issues at TI.

CETRAQ

CETRAQ is TI's acronym for Cost, Environmental and Social Responsibility, Technology, Responsiveness, Assurance of Supply, and Quality. CETRAQ is a measurement tool that shows how a supplier is performing. For new suppliers, CETRAQ identifies TI's performance expectations. For existing suppliers, CETRAQ metrics show where they rank in relationship to other suppliers and where they need to improve.

Examples of measurement categories for ESH and Social Responsibility include the following:

- Supplier ethics policy or code of conduct.
- Supplier ESH policy that is approved by the supplier's board of directors or equivalent.
- Supplier process to identify and comply with all applicable ESH laws, regulations, licenses, standards, customer requirements, etc. (e.g., SEMI S2 and S8 conformance, conflict minerals compliance, TI's Controlled Chemicals and Materials Specification (EDGE 6453792).
- Supplier process to identify and minimize impact from potentially hazardous situations.
- Supplier process to monitor, improve, and report injury and illness rates (Recordable Rate & Lost/Restricted Day Rate).
- Strict adherence to TI's Controlled Chemicals & Materials requirements.

Alcohol and Drugs

A safe and healthy work environment can only be achieved when personnel work without the influence of alcohol or drugs.

Possession or use of alcohol and/or drugs is prohibited on TI property. Use of these items is prohibited during breaks or other off-site functions where the individual may return to a TI site.

This policy applies to TI personnel and suppliers while working on TI property or on behalf of TI. Tobacco products, including smokeless tobacco, are prohibited inside TI buildings. (Refer to the Smoking and Tobacco Products section on page 17 of this Handbook.)

Cameras/Radios/Recording Devices

Use of cameras and/or video/audio recording equipment is not permitted without the proper approvals while on TI property. Contact your local Site Security for details.

Suppliers may not take pictures on TI premises unless accompanied by a TI employee. Be aware that camera flashes can set off fire detection systems and the Radio Frequency (RF) signal from radios can make some production equipment abort and reset.

Code of Conduct

TI's code of conduct is intended as an aid for handling a variety of business situations. TI expects its employees and suppliers to conduct business with uncompromising integrity and professionalism. TI policy prohibits employees from offering or accepting gifts and/or gratuities that influence or appear to influence decisions.

TI expects its employees and suppliers to maintain a professional appearance at all times by wearing clothing that is appropriate for the task. Offensive pictures or sayings, sleeveless shirts and tank tops are prohibited.

Diversity and Inclusion

At TI we value every voice and encourage employees to bring their full selves to work. Hostility and disrespect based on sexual orientation and gender identity/expression are not permitted in the TI workplace.

Distracted Walking

Keep track of your surroundings to avoid trip/falls. Ask the TI Supplier Manager for site specific mobile device usage policy. Some sites have a strict mobile device usage policy including:

- Don't walk and text. If you have to text, move to the side of the walkway out of the way of others
- Never cross or walk in the street while using an electronic device

Documentation

Suppliers shall ensure that only the latest revision of procedures, work instructions and task-related documentation are available at the supplier's work location.

Emergency Situations

If you observe an emergency situation such as a fire, chemical spill, medical emergency or gas leak, immediately proceed to a safe location and call the TI Security Communications Center (see inside front cover for phone numbers).

Be prepared to identify yourself, where you are calling from, the location of the incident, if any hazardous materials are involved, if there are known injuries, and if an evacuation is underway. Answer questions from the operator calmly and accurately. Stay on the line as long as it is safe to do so.

ESH Management Systems

TI operates a third party certifiable ESH Management System at its manufacturing and assembly ISO 14001 and ISO 45001 requirements.

The ESH Management System is a standardized method to manage environmental, safety and health issues based on a Plan, Do, Check, Act (PDCA) model to drive continual improvement.

The ESH Management System provides consistency and ensures that TI's ESH management processes and supplier performance meet a worldwide standard of excellence.

What suppliers need to know:

- Suppliers and their subcontractors are expected to understand TI's ESH policy and how it applies to their work at TI
- The importance of conforming to TI's ESH Policy and other expectations of the ESH Management System
- Their role in supporting TI's ESH policy and achieving other requirements of the ESH Management System
- The significant Environmental Aspects and Impacts, and Safety and Health Hazards and Risks of their work at TI
- The potential consequences of failing to follow TI ESH Policy and the requirements of the ESH Management System
- How to access SDS, the most current procedures, and other work instructions and records applicable to the tasks performed at TI

Contact the TI Supplier Manager or TI ESH Representative for additional information about TI's ESH Management System.

Evacuations and Shelter-in-Place

There are designated muster locations for each building to which personnel must go during evacuations, or when sheltering-in-place (e.g., severe weather). With the exception of South Portland which utilizes badge readers at the muster point, TI sites use a sweep process to ensure personnel have evacuated. Your company may also choose to verify that all personnel are accounted for and may require that designated muster locations be used. Suppliers are responsible for planning their routes to assigned/nearest muster locations during the job planning phase. Ask the TI Supplier Manager for information on muster locations.

If an evacuation or shelter-in-place is required, a high-pitched Emergency Notification System (ENS) alarm will sound or an ENS alarm strobe will light. The announcement with instructions must be followed exactly. Stop what you are doing and listen to the announcement before taking action. LFAB does not have an ENS – follow your NCO training on evacuations when at LFAB. Mandatory participation is required for anyone who is on-site at the time of an evacuation event or drill.

When exiting the building, it is not necessary to change shoes or remove clean room attire or booties. Hoods may be removed to increase visibility once outside the cleanroom. Once outside, proceed to the designated/nearest muster point, and remain there until the “all-clear” message is announced. If your company requires personnel to be accounted for and a co-worker is missing, tell the muster captain immediately. He or she will notify security or an emergency response team member. Muster captains may be identified by wearing a badge, brightly-colored vests or caps.

In the event of a power outage, remain in the work area until the emergency power system provides light if it is safe to do so. If the emergency power does not come on within 20 seconds, security may announce an evacuation. Proceed cautiously to the nearest exit.

Fire

Immediately call the TI Security Communications Center (see inside front cover for phone numbers) to report a fire. Be prepared to identify yourself, the location of the fire, whether hazardous materials are involved, if there are injuries, and if an evacuation is underway. Answer questions from the operator calmly and accurately. Stay on the line as long as it is safe to do so.

Without compromising your safety, assist anyone in immediate danger and turn off processes that may fuel the fire or present a hazard to responders. Close doors to prevent smoke or fire from spreading. Firefighting should be done by trained personnel only, and you are not obligated to attempt to control a fire with an extinguisher.

Food and Beverage Consumption

Food and beverages may only be consumed in designated break/cafeteria areas. Do not bring food and beverages into chemical use and fab support areas.

Handrails

Always use handrails on stairways. Take one stair at a time and do not run up or down the stairs. Keep your eyes on the pathway ahead and do not attempt to carry large or heavy items on the stairs. Ensure that you always have one free hand to hold the handrail.

Focus on the stairs and avoid distractions, such as phones, pagers, and laptops. Mobile devices are not to be used while using the stairs (including talking on a phone).

Do not hold conversations on the stairs, as this blocks access of others. Beware of slick conditions if raining or snowing outside.

Harassment

TI is committed to a workplace free from threats and harassment of any kind. By its very nature, behavior that is threatening or hostile creates an atmosphere of intimidation, fear, worry and discomfort. People may have difficulty confronting fearful or hostile behavior, or may feel the threat of retribution. This policy states that TI will strive to identify and eliminate hostile, threatening or inappropriate behavior as soon as possible.

Suppliers are responsible for conducting themselves according to the high standards of TI, including respecting the rights and feelings of others, refraining from threatening behavior and seeking assistance whenever necessary.

If you are not comfortable talking to the person exhibiting threatening or hostile behavior, ask a supervisor, your TI Supplier Manager or HR Representative for help. You can also call the TI Security Communications Center (see inside front cover for phone numbers).

Incidents, Injuries and Illnesses Related to Work

All work-related injuries and illnesses, no matter how minor, must be reported to the site Security Communications Center immediately (see inside front cover for phone numbers) and the TI Supplier Manager.

First aid kits are allowed in the field, but suppliers must maintain their kits in accordance with applicable laws. Suppliers may be required to have trained First Aid/CPR/ Bloodborne Pathogen personnel on their work teams (for example, if employees perform work on energized electrical equipment). In the event that first-aid trained persons are required by TI, the supplier must certify that these individuals have completed training and remain current in Bloodborne Pathogens, CPR and other required subjects (refer to the Bloodborne Pathogens section on page 20 of this Handbook).

Suppliers are required to provide a copy of their OSHA injury/illness log upon request.

Incident Investigations

The supplier will investigate all incidents or near-misses that occur on TI property. Investigation will include root cause analysis (e.g., 5-Why), and identification of corrective and preventive actions, and will be submitted to TI within 24 hours of the incident. The scene of the incident and any materials will be preserved by the supplier and TI until the investigation is complete. Upon request, the supplier will participate in incident review meetings with TI and provide a "lessons learned" slide presentation.

Parking

Suppliers may not park in visitor, authorized, TI vehicle only, 90-minute, handicap or another designation.

Follow the site parking requirements and parking decal process. Failure to follow parking policies can result in removal from the site.

Note: *TI is not responsible or liable for your vehicle. All vehicles left on property are done so at the owner's risk.*

Pedestrian Safety

Use designated walk areas and crosswalks. Do not walk in traffic lanes. If using the TI site shuttle service, cross the road to the rear of the shuttle. Look in both directions before crossing traffic lanes, and take special care when crossing during periods of limited visibility and darkness. Vehicles must stop for pedestrians in crosswalks on TI sites; however, always make eye contact with drivers of oncoming vehicles before stepping into crosswalks.

Permits Issued by TI

Certain work situations (including but not limited to Energized Electrical, Confined Space and Excavation) may require permits from TI to satisfy regulatory requirements, allow suppliers and TI to communicate job hazards, and determine appropriate protective procedures in advance of work being performed. In most cases, a permit requires a job hazard analysis and proof of appropriate training.

Suppliers should not rely only on TI's process to satisfy legal requirements, and must understand that it is the responsibility of suppliers to identify and comply with applicable work regulations.

Security Badges

TI employees and contractors are required to wear their TI- issued identification badge at all times. Suppliers are issued red identification badges. Badges must be worn in plain sight and above the waistline. Visitors or persons without a badge must be escorted at all times by an authorized TI employee.

Badges will allow access only to buildings where work will be performed. To receive an identification badge, contact the badge room.

Smoking and Tobacco Products

TI prohibits smoking of tobacco or usage of similar products, including but not limited to, cigarettes, cigars, pipes, electronic cigarettes, electronic nicotine delivery systems (ENDS), and smokeless tobacco inside any and all TI buildings, TI leased workspaces, or TI vehicles (owned or leased), at any time.

Usage of these products on TI property is only allowed within designated outdoor smoking areas or outdoors at least 100 feet away from a building entry/exit door.

Extinguished cigarettes must be placed in designated receptacles, and not in landfill bins or thrown on the ground.

Training

Supplier companies are ultimately responsible for the adequacy and quality of ESH training provided to their employees and subcontractors. Suppliers must ensure their employees and subcontractors complete required ESH training and other job-related training, including that associated with TI's site-specific conditions, work requirements, programs and standards.

Training (continued)

TI may also require that supplemental labor complete the same training as TI employees performing the same or similar functions. Suppliers may request that TI waive this requirement for particular training only if the supplier has provided comparable training as approved by TI.

Suppliers are responsible for ensuring their employees and subcontractors are trained on the contents of this Handbook and any other ESH policies and procedures required while working on TI property or on behalf of TI. It is the duty of the supplier to resolve language barriers such that employees not fluent in English complete required training.

Upon request, suppliers shall provide TI with written verification that employees and subcontractors have successfully completed required training.

Vehicle Safety

Always obey the posted speed limit and stop signs. Pedestrians have the right of way in crosswalks and other designated areas. Operating motor vehicles on a TI site is a privilege that will be taken away if repeated or serious traffic violations occur. Vehicle occupants must wear seatbelts while on TI property. Riding in the back of a truck on TI property is prohibited.

See site specific requirements for additional details.(Powered industrial truck information is provided on page 61; golf carts and recreational terrain vehicles on page 47 of this Handbook).

Weapons

Firearms, explosives and any other weapons are prohibited on TI property.

Section 2 ESH Awareness

Scope

The ESH awareness section addresses specific requirements that apply to suppliers while working on TI property or on behalf of TI. Topics are in alphabetical order by subject matter. Ask the TI Supplier Manager or TI ESH Representative for a copy of applicable TI standards.

Asbestos-Containing Material Areas

Be aware that some buildings at TI contain asbestos- containing material (ACM) that does not pose a risk when specific procedures are followed.

Areas and items containing asbestos are labeled “Danger, asbestos-containing material is present” or a similar warning. Asbestos-containing materials including floor tiles, mastics, and pipe insulation are typically identified on each building’s asbestos maps. Before working in an ACM or suspect area, suppliers must obtain a TI work permit and applicable procedures for that area.

Suppliers must follow TI procedures concerning ACM:

- Do not touch or disturb ACM ceilings, pipes or boilers without prior authorization
- Do not drill or scrape materials that may contain asbestos
- Do not attempt to clean anything that appears to contain asbestos

Bloodborne Pathogens

The potentially infectious nature of blood and other body fluids require adherence to federal regulations. In the event of a blood spill or other body fluids, call the TI Security Communications Center (see inside front cover for phone numbers). Suppliers should not attempt to wipe up these spills unless they have been properly trained in bloodborne pathogens and have the appropriate personal protective equipment (PPE) and means of disposal for a safe cleanup.

Where work requires suppliers to have CPR/first aid-trained personnel on their teams, they must coordinate with the TI ESH Representative on waste handling and disposal procedures.

Some sites have sharps containers in most restrooms. Coordinate with the TI Supplier Manager or TI ESH Representative for proper disposal instructions for used hypodermic syringes.

Blocking Areas/Equipment

Suppliers must not block equipment such as eyewash and shower stations, electrical panels and disconnects, emergency exit doors, and EMO (emergency shutoff) buttons. If it is necessary to block emergency egress paths during a Facilities project (either inside or outside of buildings), suppliers must provide signage pointing to alternate egress paths and notify the TI Supplier Manager or TI ESH representative.

Chemical Management and Disposal Procedures

Suppliers must obtain approval from their TI Supplier Manager prior to bringing chemicals or potentially hazardous material to a TI site. TI reserves the right to disapprove the use of specific chemicals on its property.

SDS and Hazard Communication

Suppliers must submit SDS to the TI Supplier Manager before bringing chemicals to a TI site.

- SDS must be provided at least seven (7) days prior to start of the job for TI review and approval
- SDS must be available in work areas where chemicals are used
- Workers must be able to access the SDS for chemicals in their work areas
- All chemical containers must be properly labeled in compliance with the OSHA Hazard Communication standard and applicable environmental regulations

Suppliers shall not handle or dispose of chemicals, potentially hazardous materials, or wastes at or from a TI site unless authorized to do so in a written contract with TI and after completing appropriate training.

Under no circumstances shall suppliers place any substance (including water) down the drain or on the ground without prior notification and approval by the TI Supplier Manager.

Suppliers must provide a plan for handling, storage and disposal of chemicals, and demonstrate that the protocol has been clearly communicated to their employees. This must include consideration of chemical compatibilities to avoid reactions in the event of leaks/spills. This plan must be submitted before approval is given to bring chemicals to a TI site.

Chemical quantities brought to a TI site shall not exceed the threshold in the OSHA Process Safety Management regulations. Chemical quantities shall be maintained at minimum essential levels.

- Waste chemicals must not be combined together without authorization from TI ESH Representative.
- Chemicals must always be compatible with the container which holds it.
- Discarded materials must be identified as waste with the proper HazCom requirements.
- Waste chemicals must be in secondary containment (example: pint sized discarded paint in a Tupperware).
- Small flammable or combustible wastes must be stored in an approved flammable storage cabinet until disposal.
- Waste chemicals should be secured from general public areas, in a closed container, and properly under the control of a TI Representative or knowledgeable Supplier.

All sites have TI ESH Representatives who can help with the disposal of any chemicals. Please provide all relevant information on how the waste chemical was generated so proper identification and waste management can occur.

Process related documents/evidence should be shared with the TI ESH Representative. This includes: SOPs, Analytical testing reports, Process Knowledge forms, and SDS's.

Chemical Handling and Storage

Suppliers using chemicals (solids, liquids or gases) must do everything reasonably possible to eliminate spills, drips or leaks. To prevent release into the environment; storage and transfer of chemicals from tanks, drums, or containers must be conducted within a secondary containment system. For indoor locations, the secondary containment needs to be at least 110% of the largest single drum, container, or tank in the containment. For outdoor locations, the secondary containment needs to be at least 150% of the largest single drum, container, or tank in the containment. Materials contaminated with hazardous chemicals must be properly bagged, labeled, and transferred to the designated on-site storage location. The TI Supplier Manager or TI ESH Representative will know the proper disposal location.

Requirements:

- Except when adding or removing materials, lids on drums/containers must be closed at all times.
- Drums and/or containers must be in good condition without rust, dents, or any physical defects that could affect the integrity.
- Transfer of material into, out of, or between drums, containers, and tanks in inclement weather is prohibited (outside).
- Drums, containers, and tanks must have all required HazCom information, including identifying the chemical and hazards associated with the chemical.

- Tanks will also be labeled with the holding capacity volume, while drums and containers will identify the chemical manufacturer. Drums and containers stored outdoors will be protected from climate elements. Examples would be: using a tarp to cover outdoor containers or storing material off the ground on pallets.
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Contaminated Construction Debris

Proper disposal locations and procedures for contaminated construction debris, including piping, ductwork, soils and equipment must be identified during project planning. Contact the TI Supplier Manager or TI ESH Representative for details. Do not dispose of this debris without proper instruction.

Empty Chemical Containers

Empty chemical containers must maintain their original labels and be disposed of according to protocol established by the TI Supplier Manager and TI ESH Representative and in accordance with the law. Containers that held chemical substances may not be used for another chemical unless the container has been properly cleaned.

Storm Drains and Storm Water Protection

Suppliers shall not place any substance down an inside or outside drain or dispose of a chemical, wastewater or pipe flushing into a storm or roof drain. (**Note:** *roof drains and catch basins are connected to storm drains*). No chemicals

shall be handled in an area where a leak or spill could enter a storm drain unless prior approval is obtained from the TI ESH Representative. The following rules also apply:

- Maintain good housekeeping practices in construction areas to protect the site's storm drain system.
- Construct chemical storage areas according to applicable and required laws and TI policies.
- Provide a containment plan for machines and tools that have potential for chemical or oil drips, leaks or spills.
- Ensure work/personal vehicles and equipment are well-maintained and don't leak fluids while on site.
- Follow the chemical spills protocol (next section below) to report the spill or release of chemicals, wastewater or fuel on a TI site.

For construction projects on a TI site, the supplier shall comply with applicable storm water regulations. At a minimum, suppliers shall review their storm water pollution prevention plan with the TI ESH Representative before and during the project. This plan may include the use of hay bales and dikes for chemicals stored outside during the project.

Chemical Spills

Chemical spills and gas leaks or releases inside or outside a TI facility (no matter how small) could trigger environmental agency notification, containment and cleanup activities. Call the TI Security Communications Center (see inside front cover for phone numbers) immediately in the event of an actual or suspected spill or release of a chemical, gas or potentially hazardous material, then notify the TI Supplier Manager.

Hazardous/Regulated Waste Management

Hazardous or other regulated waste generated from work on TI-controlled property must be managed according to TI's environmental requirements. Suppliers must be properly trained by their company and authorized by a TI contract before engaging in waste management activity.

TI Supplier Managers and TI ESH Representatives will work with suppliers to address proper disposal of hazardous and regulated waste prior to the start of a project or the generation of waste material. The TI ESH Representative or his/her designee will manage the containerizing, documentation and disposal of wastes. Supplier must provide information that describes the waste generated for the project and applicable SDS for materials used.

Note: *Federal and state laws prohibit bringing hazardous waste from another job site onto TI property.*

Upon completion of work, unless otherwise instructed by the TI Supplier Manager or determined by the TI contract, suppliers must remove unused chemicals and materials from the TI site. All chemicals shall be properly disposed per regulatory requirements.

Bulbs and Ballasts

Waste lamps (bulbs) and ballasts are subject to specific disposal requirements. Contact the TI Supplier Manager or TI ESH Representative for handling and disposal instructions.

Non-Industrial Waste Management and Recycling

TI recycles non-hazardous waste materials, and suppliers are expected to properly segregate and dispose of all recyclable materials.

TI sites segregate metal, wood, and paper/cardboard, and may also include various plastics and packaging, compostables (e.g., food items, paper/plant-based food packaging) and other materials separately depending on the site.

Offices are equipped with recycle bins for paper, plastic and metals such as aluminum cans. Subfab, support and break areas may be equipped with recycle bins, as well. Landfill items (e.g., Styrofoam cups, candy and chip bags, fast food containers) are not to be placed into any recycle bins.

Suppliers are encouraged to work with their TI ESH Representative to identify recyclable material and collection points.

Chemical Safety Awareness

TI products are a result of the skillful application of chemistry and physics. Many chemical substances used may be classified as corrosive, flammable, combustible, toxic, inert, explosive, or as an oxidizer. Therefore, the following precautions and controls are necessary to ensure the safety of TI's employees, suppliers, visitors and the environment:

- Flammable liquids (flash point below 100°F/38°C) may not be used inside TI buildings unless contained in an approved flammable liquid container.
- The volume of flammable liquids in a single container must not be greater than 1 gallon and must be stored in an approved flammable-liquid cabinet when not in use.
- Chemical containers (including water) must be clearly labeled with the information required by OSHA standard 29 CFR 1910.1200.

Compressed Gas Safety

Minimum Cylinder Preparation

Prior to use, suppliers must inspect compressed gas cylinders for the correct content label, damaged seat (sealing surfaces), signs of corrosion, or other indications of abuse that may jeopardize the integrity of the container. Cylinders should not be put into service if their integrity is in question. Attach hoses and check for fitting leaks outside of a building.

Minimum Leak Detection Requirements

Fittings must be checked at least once per shift according to TI specifications provided by the TI Supplier Manager. Suppliers shall repair leaks and perform a leak check again before use.

Transportation Requirements

Cylinders should not be carried by hand. A cylinder cart must be used for cylinder transportation, and chains or straps must be fastened at all times. Cylinder caps must remain in place when the cylinder is not in use to protect valves from damage. When not in use, cylinders should remain secured on the cart or to a rigid structure. Incompatible gases should never be stored next to each other.

During cylinder transportation and use, avoid damaging hoses, and use specified vehicles and equipment to transport chemicals and gases on TI property.

Welding Gas Regulator Storage and Maintenance

Welding gas regulators should be stored in an area not used for other materials. Avoid handling the regulators and hose assemblies roughly.

Regulators should be inspected for corrosion, leaks, and damage prior to each use and they should not be put into service if integrity is in question.

Regulator assembly fittings, including the bonnet, should be checked for tightness prior to each use.

Regulators should be inspected annually and rebuilt, if needed, to meet the manufacturer's specifications. Records of inspections, rebuild dates and other actions must be presented to TI upon request. Other requirements include:

- Cylinders are not to be secured with bailing wire, hazard tape, duct tape or similar means.
- Cylinders must never be dropped, rolled, or slid.
- Cylinders shall not be taken into a confined space.
- Always check content label on each cylinder to ensure proper gas type.
- Gas cylinders containing flammables such as acetylene and some toxic gases have reversed (i.e., left handed) threads to connect them to a pigtail. Cylinders with left-handed thread connections must be clearly labeled at the connection and the valve outlet cover.
- Never make or break connections on an airline breathing system without prior written approval from a TI ESH Representative.

Confined Space Entry

Federal regulations and TI policy require that suppliers follow a strict procedure before entering a confined space. Failure to comply is considered a gross safety violation that may result in disciplinary action and removal from TI property.

A confined space is defined as any space that:

1. Is large enough and is so configured that an employee can enter and perform assigned work.
2. Has limited or restricted means for entry or exit.
3. Is not designated for continuous occupancy.

All three criteria must exist to designate a confined space.

Permit Required Confined Space

A permit required confined space is a confined space that has one or more of the following characteristics:

1. It contains or has potential to contain a hazardous atmosphere.
2. It contains a material with the potential to engulf an entrant.
3. An entrant could be trapped or asphyxiated by inwardly converging walls or by a floor that slopes downward and tapers to a smaller cross-section.
4. It contains a recognized serious safety or health hazard.

Authorization to Work in Permit Required Confined Spaces

Suppliers are responsible for developing, implementing, and maintaining their own confined space entry program that complies with OSHA and TI ESH standard 07.03 Permit Required Confined Space. The program shall be furnished to TI upon request. Known TI permit required confined spaces are labeled accordingly.

Requests for entry into a confined space must be submitted by the TI Supplier Manager, not the supplier. Once the request is made, suppliers shall obtain information from TI ES (issued by ESH in South Portland) on hazards associated with entry. An ES authorized representative will complete the contractor communication checklist and coordinate with the TI Supplier Manager at least 24 hours in advance of entry into a permit required confined space. A TI-approved rescue plan must be provided. Advance planning ensures proper communication of potential hazards, hazard isolation, and acceptable entry conditions.

Proof of training must be provided to TI prior to confined space entry.

Suppliers are responsible for:

- Obtaining available information regarding confined space hazards from the TI Supplier Manager and an ES representative.
- Coordinating entry operations with the TI Supplier Manager.
- Completing a self-assessment of confined spaces prior to conducting confined space work on TI property.
- Providing the TI Supplier Manager and ESH with certification that personnel are properly trained;
 - a. Certification must be signed by the instructor and show the date of the training.
 - b. Certification must state that training met the requirements for confined space entry as required in OSHA regulations.

- Providing appropriate and adequate monitoring equipment with current calibration certifications.
- Providing employees or a third-party rescue service qualified to enter a permit required confined space;
 - a. Rescue service personnel must show training certification.
- Having equipment prepared for confined space entry before the permit is issued.
- De-energizing and locking out energy sources that affect the confined space.
- Purging and venting the space, and installing a ventilation system.
- Securing the area.
- Ensuring that workers use appropriate personal protective equipment, such as skin protection and respirators.
- Using escape full-body harnesses and life lines unless their use creates a greater hazard.
 - a. Vertical entry greater than five feet requires a tripod winch escape unit.
- Using special lighting and non-sparking tools if an explosion or fire risk exists.
- Securing the entry and exit to prevent closure or collapse during the operation.
- Supervising entry until work in the space is complete and necessary forms are closed out.
- Debriefing ES on hazards encountered during entry and hazards created by work in the confined space.

Control of Hazardous Energy (Lock Out Tag Out)

Federal law requires that strict procedures be followed when servicing or maintaining equipment with hazardous energy. Examples of hazardous energies include electrical, mechanical, chemical, thermal, hydraulic, pneumatic, spring- loaded and radio frequency (RF). Failure to follow applicable Control of Hazardous Energy Lock Out Tag Out (LOTO) regulations as described in OSHA regulations and TI-specific requirements is considered a gross safety violation that may result in disciplinary action and removal from TI property.

Suppliers are responsible for ensuring that:

1. They have a Lock Out Tag Out program that complies with OSHA and TI ESH Standard 06.11 Lock Out Tag Out; the supplier's program shall be furnished to TI upon request.
2. Supplier programs must identify how locking devices (by color, shape or size) and tagging devices (by print and format) are standardized. **Note:** *Red locks and "Danger Do Not Operate" tags used at all TI sites may not be used for any purpose other than LOTO.*
3. All locks applied must be accompanied with a standardized tag. Locks and/or tags must legibly identify the name of the person applying the lock/tag, their contact information, and the date it was applied.
4. Where a system, piece of equipment or device is not physically able to be locked, the TI site ESH Manager must approve the alternate control plan prior to proceeding with a tag only.

5. Locks have only one key, and that key must stay with the person who applied the lock, unless Group LOTO is coordinated (work with your TI ESH Representative for approval).
6. Sharing locks while performing lock out / tag out is prohibited.
7. Suppliers must provide their own locks and tags.
Note: *TI's direct supplemental labor may be issued locks and tags.*
8. All applicable written procedures are reviewed with the TI Supplier Manager before work begins.
9. No combination or magnetic locks are allowed.

Suppliers may only manipulate energy isolation points with approval of the TI Supplier Manager. LOTO devices may remain in place overnight with approval of the TI Supplier Manager.

Cranes, Derricks and Hoists

Suppliers must certify that cranes, derricks and hoists are in a safe operating condition prior to their use on a TI site. Trained and certified personnel shall inspect and certify (document) such equipment prior to each use, monthly or annually according to manufacturer's recommendations.

Certification records must be maintained by the supplier and made available to the TI Supplier Manager or TI ESH Representative. Crane operators must have appropriate training with written certification of completion. A Competent Person shall provide the certification. Supplier shall provide the TI Supplier Manager the name of such Competent Person.

The following are general requirements for the use of cranes, derricks and hoists:

- Barricades must be erected prior to lifting any load to prevent personnel from entering the work area.
- The supplier shall comply with applicable limitations as specified by the manufacturer for operating cranes, derricks and hoists.
- Rated load capacities, recommended operating speeds, and special hazard warnings and instructions shall be followed and conspicuously posted on equipment.
- Machine use near power equipment shall be conducted in accordance with manufacturer's specifications and OSHA regulations.
- Ensure loads do not exceed 85% of the equipment's load capacity.
- Christmas tree style or similar multiple lift rigging loads are not allowed.
- Signal person and rigger must be trained and competent
- Coordination with TI security and building personnel may be required prior to working on rooftops or in parking lots.

Cutting/Welding Permit

A cutting/welding permit is required when work involves an open flame or spark-producing equipment, for example welding, cutting, burning, grinding and soldering. Some equipment may be exempt from the Cutting/Welding permit. The TI Supplier Manager will identify potential hazards in the work area and help obtain necessary permits.

General requirements for a Cutting/Welding permit:

Butane lighters are prohibited while working with cutting and welding equipment or near possible ignition sources;

- Suppliers will provide fire prevention equipment such as blankets and shields depending on the work being performed.
- The Cutting/Welding Permit must be issued and posted at the job site before work begins.
- Equipment must be in good repair.
- A fire watch must be present at the work site and have a serviceable carbon dioxide (CO₂) fire extinguisher; dry chemical extinguishers are not allowed in clean room and sub fab areas. ABC dry chemical extinguishers may be used in outside and office areas in many cases. Discuss with the project manager during job planning.
- A fire watch will be present during breaks and for 60 minutes following completion of work.
- No cutting and welding will occur where solvents or hazardous chemicals are being used or stored.
- All fires, regardless of size, must be immediately reported to the Security Communications Center (see inside front cover for phone numbers).

Demolition and Wreck Out

Demolition and wreck out projects can be complicated and suppliers must work closely with their TI Supplier Manager. Sprinkler systems, electrical distribution lines, chemical process lines, safety systems, process equipment and other systems must be protected from unintentional interruption. Controls

must be put in place to protect adjacent areas from demolition debris. The supplier and TI Supplier Manager shall perform a walk-around of the areas affected by demolition work so unplanned system interruptions can be avoided.

Suppliers must be trained in the selection and use of personal protective equipment (PPE) since work may occur in areas with chemicals or remnants of process chemicals. The TI Supplier Manager will provide hazard assessment information so that proper PPE may be selected and used. The minimum required ANSI compliant PPE for demolition and construction areas are a hard hat, safety glasses with hard side shields, and steel/composite toe shoes. The demolition or construction areas must be clearly marked for PPE requirements, barricaded and access limited to essential personnel. The TI Supplier Manager will determine if barricades are acceptable to protect others from exposure and prevent unwanted access to demolition or construction areas.

Movement of hazardous production equipment must comply with TI requirements including documented decontamination. The TI Supplier Manager must coordinate the issuance of an orange tag as required prior to physical relocation of previously contaminated equipment.

Suppliers must coordinate with the TI Supplier Manager to establish staging areas for waste materials, building materials, and equipment for the job. Suppliers must coordinate with the TI Supplier Manager concerning the disposal of demolition and wrecked material and shall follow the requirements summarized in the Chemical Management and Disposal Procedures section on page 21 of this Handbook for any contaminated or potentially contaminated construction debris.

Regulatory permits, licenses or other authorizations required for demolition work, such as those required for removing asbestos, must be obtained prior to beginning work. If the work has potential to generate odors, an Odorous Work Notification may be required. If any cutting and welding will be performed a Cutting/Welding Permit may be required. Suppliers must coordinate with the TI Supplier Manager to determine which notifications and permits are required for various projects.

Suppliers are expected to follow their company's Control of Hazardous Energy program and the requirements of TI's ESH Standard on Lock Out Tag Out. Conflicts should be addressed with the TI Supplier Manager. Suppliers will ensure that utilities to be wrecked out are clearly identified, de-energized and locked and tagged out.

Dock Safety

Be aware of the surroundings and keep docks clear of debris to maintain safe working conditions. Chemicals are distributed only at designated chemical docks. Vehicle engines must be turned off while at the docks, and trucks must use dock locks or wheel chocks. For fall prevention, keep dock doors closed when truck is not docked.

Refer to the Powered Industrial Truck section on page 61 of this Handbook for more information on forklifts, electric pallet jacks.

Electrical Safety

Shock is the most common electrical hazard. Tools must be used according to manufacturer instructions. Electrical devices must be properly grounded or double-insulated and remain

in operable condition. Wire and device capacities must be appropriate for the job and meet applicable codes.

Ground Fault Circuit Interrupters (GFCIs) shall be used on extension cords and portable tools. Lights or portable tools carried into hazardous locations must be approved by TI for the location. Cords shall be routed to avoid damage and trip hazards. Daisy-chained extension cords or plugs strips are prohibited.

Suppliers are restricted from using building power in new construction. Anything connected to building power must be approved by the TI Supplier Manager, and the supplier must ensure that GFCIs are in use.

Suppliers shall wear PPE as recommended by the manufacturer for operation of particular electrical tools and equipment or to match conditions in the work environment.

All electrical shock incidents, regardless of severity, must be reported to the TI Security Communications Center (see inside front cover for phone numbers) and the TI Supplier Manager.

Suppliers performing electrical services must have electrical safety training, including first aid, CPR and bloodborne pathogens training annually. Suppliers must provide written certification of such training, and for electrical safety equipment such as volt-ohm meters, electrical hot work gloves and rubber blankets.

Only those suppliers designated in writing to TI as being qualified and trained are authorized to work on electrical systems and equipment. Work will be coordinated in advance with the TI Supplier Manager to prevent unintended power interruptions and injuries.

High Resistance Grounding

Some TI facilities have substations with High Resistance Ground (HRG) systems. The HRG system limits phase-to-ground fault currents to less than two amps, which prevents the breaker from tripping and provides a reliable electrical source to fabrication tools. A phase-to-ground fault does not affect the electrical system but creates a potential safety hazard to anyone working on the system. Each HRG system is equipped with an alarm that indicates a phase-to-ground condition. Upon activation of the HRG alarm system due to a fault condition, any work being performed on equipment fed from that system should stop until the fault is cleared.

Additional training is required for anyone qualified to work on energized electrical equipment on a HRG system to ensure understanding of the safety requirements for the work.

Energized Electrical Work

Energized electrical work shall only be performed if de-energizing introduces increased hazards, or if infeasible due to equipment design or operational limitations. The hazards of performing energized electrical work may include shock, arc, blast and electrocution. Only Qualified Persons can perform energized electrical work. Suppliers must complete a Job Hazard Analysis (JHA) and obtain a Energized electrical Work Permit. Permits are only available to supplier personnel that meet these requirements.

A TI Energized Electrical Work Permit or Facilities Hot Work Log is required for each task that requires work on or close to unguarded, uncovered, or non-insulated voltages of 50 volts or greater.

Energized electrical work authorization is never included in the TI Work Permit or other work authorization document; it must be obtained on a case-by-case basis.

PPE for a specific task should be determined by the task and location of work. Minimum PPE requirements are described in the TI Energized Electrical Work Permit. Head or fall protection shall be used as required. Inspection and proper care of PPE is described in the American Society for Testing and Materials (ASTM) standards.

Cleanroom Electrical Hot Work

Special flash/arc smocks and garments must be worn if performing electrical hot work in a cleanroom. Electrical gloves must be used without leather protectors. Coordinate with the TI Supplier Manager to determine the appropriate PPE for the particular project.

De-energized Electrical Work

De-energized electrical work is considered energized electrical until the equipment has been properly de-energized by a Qualified Person, tested as de-energized, lock out tag out installed and grounded, where grounding does not introduce additional hazards. Suppliers must also notify affected personnel, remove the lock out tag out devices, and restore the energy sources.

Suppliers shall follow written procedures for the control of hazardous energy and application of grounds to de-energized equipment (lock out tag out). Prior to performing such work, suppliers shall complete a JHA. A written switching order may be required before performing any work.

Suppliers must wear appropriate PPE during de-energization of equipment. The type, size and voltage of the device being switched will determine the type of PPE required. Only Qualified Persons may perform de-energizing electrical work.

Ergonomics/Body Mechanics for Lifting

Suppliers are responsible for educating employees on proper lifting techniques and assistive devices.

When lifting, it isn't just the weight of the object that determines the stress placed on the back, but also the position of the body (body mechanics) and the distance between the body and the object. Maintain the natural curves of the spine, bend at the knees and lift with the legs, not the back. Also, avoid twisting while lifting. Use the feet to turn instead of the back. Overhead lifts should only be performed by using some type of mechanical assist, such as a robot, forklift, pulley, hand truck or rollers. This is also true for lifting heavy objects.

Manual Material Handling

When transporting material greater than 8 feet in length, a minimum of two people is required. When transporting material greater than 8 feet in length on a cart, a third person is required to guide the material and open doors. Materials shall not be carried on shoulders when rounding corners because vision may be obstructed. The intent of the 3rd person is to be a spotter so to prevent incident when we moving around corners, blind spots, etc.

Excavation and Trenching

An excavation is defined as a man-made cut, cavity, trench or depression formed by earth removal.

Excavations and trenches require a TI Excavation Permit, and suppliers must notify the TI Supplier Manager prior to digging.

Suppliers may be required to contact applicable agencies to determine the locations of underground installations (sewer, telephone, fuel, electrical lines) in and around the excavation/ trench area and must coordinate this with the TI Supplier Manager. If unidentified utilities are encountered, suppliers must stop work and contact the TI Supplier Manager. The TI Supplier Manager must also be made aware of any discrepancies or utility routing changes in the field so that associated drawings may be updated.

Excavations and trenches must be barricaded, marked, lighted, shored, benched and sloped in accordance with OSHA regulations and TI ESH Standards. The supplier must designate a Competent Person to perform excavations and trenching and sign-off as required. The TI tag or permit will be displayed at the excavation site, and no one is allowed access unless the operation has been inspected and approved by the Competent Person and the permit or tag is properly signed.

No soils or other debris from an excavation or trenching job shall be moved off site without the prior approval of the TI Supplier Manager and TI ESH Representative. Refer to the Chemical Management and Disposal Procedures section on page 21 of this Handbook for information on the disposal of potentially contaminated soils and debris.

Note: Excavations and trenches may be considered confined spaces. Refer to the Confined Space Entry section on page 29 of this Handbook and OSHA regulations.

Eye Washes and Emergency Showers

Eye washes and emergency showers are located throughout TI buildings where a risk of exposure has been identified. Before starting work, identify the nearest locations to the work area.

If you sustain a chemical exposure to the skin or eyes, flush the affected area with water for 15 minutes unless directed by an emergency responder. Have someone call the TI Security Communications Center (see inside front cover for phone numbers) for help. Remove any PPE and clothing as needed to flush the affected area.

Do not block eye wash and emergency showers or pour anything down the drains. Washing containers, paintbrushes and other tools in the eye washes and showers is a serious infraction that may result in disciplinary action or termination of the TI identification badge.

If temporary eye washes are needed, suppliers shall coordinate with the TI Supplier Manager. Additional stations will be placed within 10 seconds of the work area.

Fall Protection

All personnel must use fall protection such as lifelines and railings when working on open-side roofs, ledges and catwalks, or when parapets are less than 39 inches high.

It is the responsibility of the supplier to meet regulatory requirements when employees perform work that exposes them to a potential fall of 4 feet or greater, for General Industry or 6 feet or greater for Construction Industry, measured from the bottom of the employee's feet.

Prior to the start of work involving exposure to a fall hazard, a pre-task fall hazard assessment shall be performed to determine:

- Need and type of fall protection system(s) required to safely perform the work
- Need and type of signs and barricading to prevent unauthorized personnel from entering areas below the elevated work

A spotter may be required during work involving fall protection; for example, when transitioning from a ladder to a work platform (I-beam, or other) with tie off and harness in use. Contact the TI Supplier Manager or TI ESH Representative and refer to the Spotters section on page 65 of this Handbook for further guidance.

A fall rescue plan shall be developed when work requires the use of a fall arrest system and self-rescue is not possible.

This plan shall include the following:

- How notification will occur and to whom
- How to respond to an unconscious worker(s)
- How to assist with worker(s) retrieval
- The rescue equipment and state of readiness necessary for the retrieval

- Response time to access the worker(s) (must be less than 6 minutes)
- Verification of proper training for those worker(s) working on the project
- Review of the fall arrest system including anchor points with the workers
- Discussion of the rescue plan with the worker(s)

Note: *Fall protection is not required when working on a ladder, regardless of height. Refer to the Ladders section on page 56 of this Handbook. Suppliers must provide a Competent Person to oversee work requiring fall protection.*

Fire Protection Systems

Before shutting down a fire protection system, suppliers must obtain a work permit from the TI Supplier Manager at least 24 hours in advance. The supplier must notify the Security Communications Center (see inside front cover for phone numbers) so a qualified representative can witness the event. Fire protection systems must be restored within eight hours unless other arrangements are made in advance.

When the fire protection system is ready to be reactivated, the supplier must notify the TI Security Communications Center (see inside front cover for phone numbers) and a qualified representative will witness the restoration. A fire protection employee may shut down and restore sprinkler risers, which must be coordinated through the Security Communications Center. There are no exceptions to this requirement.

Wrapping, covering, painting or otherwise modifying sprinkler heads is prohibited.

Golf Carts/Recreational Terrain Vehicles

To help ensure the safety of TI and suppliers, golf carts and recreational terrain vehicles (RTVs) on TI property must meet the following requirements:

- Operators must have a valid state issued driver's license
- Carts and RTVs may cross arterial streets at traffic intersections, but should not be driven on external arterial streets/public roadways
- Cart and RTV drivers must obey TI traffic signs and rules and follow state and local and site-specific traffic laws
- Carts and RTVs must not transport more people than there are seats provided
- Carts and RTVs should not be used during low-light or inclement weather conditions
- Seat belts must be worn while vehicle is in motion

Suppliers must have their carts and RTVs inspected for compliance and registered with the TI Facilities Transportation Manager or Site Facilities Manager. Carts and RTVs must be equipped with the following minimum features, or they will be banned from TI campuses:

- Headlamps
- Tail lamps
- Warning flag visible above the roof or driver
- Reflective material visible 360 degrees
- Service brake, emergency brake or parking brake
- Rear view mirrors

- Seat belts
- Audible horn
- A slow-moving vehicle emblem on the rear of the vehicle that is visible from 500 feet and approved by the American Society of Agricultural and Biological Engineers
- Company or owner identification, including phone number

Guarding and Barricading

Work areas must be properly barricaded and marked. Signs applicable to TI work may be provided and suppliers must adhere to them. Barricades must not be violated, whether made of wood, ribbon, tape or other materials.

Suppliers are responsible for providing safety signs and barricades to fully isolate the supplier's work area, including all associated hazards, from pedestrian traffic and prevent unauthorized access to the area. Only AUTHORIZED PERSONNEL are allowed to cross a barricade. Contact the TI Supplier Manager to review the plan for use.

Barricades and barricading tape shall not be attached to any wafer fab tools, furniture, or other manufacturing or support equipment. Barricades must be clearly marked with the responsible party's name, contact number, and PPE required for entering. Note that additional information may be required by the site. Suppliers must remove all signs and barricades when work is completed.

If the work obstructs an emergency exit, the supplier must contact the TI Supplier Manager or TI ESH Representative to determine an alternate egress route and communicate it to all persons potentially impacted.

Barricade Tape

When barricade tape is used, the selected color and signal word shall be based upon the hazards inside of the work area.

- Red "Danger" tape applies to hazards that could cause significant injury, death, or an immediate health hazard (e.g., energized electrical work, areas requiring respiratory protection). Unauthorized persons may not cross Danger barricades without approval from workers inside the barricaded area
- Yellow "Caution" tape applies to hazards that have lesser potential for serious injury (e.g., tripping on staged material, spills, floor waxing.) Unauthorized persons may cross Caution barricades without approval if wearing required PPE and understand the hazards within the barricaded areas

Shared Barricades

Whenever barricades are shared between more than one supplier company, the suppliers shall coordinate to identify the proper barricading method. The following precautions apply:

- Each supplier must have their own signs on the barricade
- When tape is used, it must reflect the most significant hazard of all work being performed within the area, and
- Barricading must remain in place until all work is completed (i.e., one supplier may not remove the barricade if another supplier is still working within the barricaded area)

Open Raised Floor Tiles/Other Floor Penetrations

Suppliers must coordinate with the TI Supplier Manager before removing floor tiles or making floor penetrations, and the supplier must coordinate with TI to ensure that employees in the vicinity are advised of the work and potential hazards. For LFAB, hard barricades must be used for any floor tile opening.

For any work requiring a floor tile to be lifted or a floor penetration to be made, barricades shall be in place before a supplier removes floor tiles or creates other penetrations in the existing walking surface or floor system. Barricades are required to be set at a minimum of 2 feet outside the perimeter of open floor tiles before floor tiles are removed. If the workspace prohibits the 2 feet minimum, contact the TI Supplier Manager for an alternative plan approved by TI ESH.

Hole covers, hole reducers or some other method of fall protection (e.g., guardrails) must be used to eliminate any elevated fall issue. Contact the TI Supplier Manager for site-specific requirements. Whenever possible, floor tiles shall be replaced before leaving the work area unattended.

When hole covers are used over temporary floor penetrations, they shall be strong enough to support two times the weight of any employee, machinery, or equipment that may be imposed on them, be marked "hole" or "cover," and be secured to prevent displacement.

See your Supplier Manager for site specific barricading requirements.

Handrails

Always use handrails on stairways. Take one stair at a time and do not run up or down the stairs. Keep your eyes on the pathway ahead and do not attempt to carry large or heavy items on the stairs. Ensure that you always have one free hand to hold the handrail.

Focus on the stairs and avoid distractions, such as phones, pagers, and laptops. Mobile devices are not to be used while using the stairs (including talking on a phone).

Do not hold conversations on the stairs, as this blocks access of others. Beware of slick conditions if raining or snowing outside.

Haulage Vehicles

Haulage vehicles like dump trucks and wafer transport trucks operating on TI property must be equipped with audible alarms when the vehicle is in reverse. Standard trucks are exempt from this requirement.

When parked at loading docks, vehicles must have their engines turned off and be secured by dock locks or wheel chocks prior to being loaded/unloaded.

Transporting workers in the back of trucks is prohibited on TI property. Texting while driving is not permitted. Suppliers will adhere to posted speed limits and designated routes on TI campuses.

Hazard Communication

Suppliers are responsible for implementing and maintaining a hazard communication (HazCom) program meeting OSHA and TI requirements. Suppliers and their subcontractors must have HazCom training prior to beginning work at TI where their work tasks or work environment include use of hazardous chemicals and materials. Retraining must occur when the chemicals or use changes and at a frequency to ensure continued compliance with OSHA and TI requirements.

Forms signed by suppliers indicating they have completed required training shall be made available to TI. Suppliers shall coordinate with the TI Supplier Manager to obtain information about TI chemicals and determine the location or means of accessing SDS for those chemicals.

Hazard Signs and Labels

Suppliers must adhere to posted hazard signs and labels in the work area.

Signs and labels shall be posted to caution, warn, instruct, and inform employees and visitors regarding ESH hazards. Signs and labels shall be designed and displayed in accordance with TI policy and 5S requirements. Contact the TI ESH Representative or TI Supplier Manager for further instruction.

Temporary signs and labels may be used to communicate a warning. They shall be removed if the hazard is eliminated or replaced with a permanent sign if the hazard is permanent.

Suppliers shall abide by the following specifications for safety signs and labels:

Hazard Class	Barrier Tape Specs	Sign Specs
CAUTION: Potential for moderate injury	Yellow with black letters or stripes	Yellow background with black text
WARNING: Potential for serious Injury	Orange with black letters	Orange background with black text
DANGER: Potential for death, immediate risk	Red with black letters	White, red and black background with black text

Hazardous/Flammable Vapors

Ensure employees know and understand the risks created by a flammable material / liquid. Suppliers are responsible for ensuring their employees have read the Safety Data Sheet (SDS), know the Personal Protective Equipment (PPE), and understand the ventilation requirements. The product(s) shall be kept in covered containers when not in use. Ground equipment that is likely to produce a static spark. Where possible, eliminate or substitute less hazardous product(s) and/or reduce the quantities of flammable liquids to only the amount necessary for the work in progress.

Flammable vapors must be controlled to avoid hazards to employees. If paints, adhesives or vapor-producing coatings are used, the supplier must provide adequate ventilation and consider the need for Lower Explosive Limit (LEL) monitoring to prevent the buildup of excessive vapors. If this requirement is not met to the satisfaction of TI, work may be stopped until safe conditions are demonstrated by the supplier.

Suppliers must stop work immediately if the concentrations of flammable liquid vapors reach:

- The ACGIH Threshold Limit Value (TLV)
- The OSHA Permissible Exposure Limit (PEL)
- The ACGIH Short Term Exposure Limit (STEL)
- 10% of the LEL of the liquid used

If any of these criteria are met, the supplier must cease operations until the area is sufficiently and properly ventilated

Hearing Protection

Any work producing noise levels greater than 85 decibel A-weighted (dBA) or occurring in areas where the level exceeds this limit, requires hearing protection. Suppliers must provide and wear appropriate hearing protection in areas marked "Hearing Protection Required," and are responsible for recognizing areas that may require hearing protection.

Suppliers must evaluate their own operations to determine if hearing protection is required and post warning signs, if appropriate. Suppliers exposed to noise levels 85 dBA or greater averaged over an 8-hour work shift shall adhere to the supplier's Hearing Conservation program as described in OSHA regulations.

Housekeeping and 5S

TI's semiconductor manufacturing process requires a very clean environment. Suppliers must perform their work in a manner that minimizes noise, vibration and dust.

5S Practices

Suppliers are key partners in TI's 5S (sort, set, shine, standardize and sustain) program. The program and 5S culture focus on organization, cleanliness and standardization to improve profitability, efficiency, reliability, service and safety. Talk with the TI Supplier Manager to learn more about 5S and your expected participation.

5S Principles include:

- Only necessary materials and tools are kept in work areas
- Equipment and tools have defined storage locations where they must be kept when not in use
- Material staging areas are well-defined
- Extension cord management
- Work and storage areas are neat, clean and organized
- Tools and carts are clean and organized
- Signs and barricades are properly installed

Suppliers must properly dispose of non-hazardous or solid waste, trash, scrap, excess material and other debris at appropriate intervals during the workday and at the end of shifts. Suppliers shall ensure receptacles are available for paper and other debris created by the work in progress. Remember the TI principles of reduce, reuse and recycle when handling materials. Refer to the Chemical Management and Disposal Procedures section on page 21 of this Handbook.

Job Hazard Assessment

A Job Hazard Assessment (JHA) is typically required as part of a building requirement or work permit process before work may begin. Coordinate with the TI Supplier Manager or TI ESH Representative for further information on the applicability of this requirement.

Supplier shall understand that it is supplier's sole responsibility to ensure the accuracy, adequacy and completeness of this JHA. While TI may request a copy to validate that a JHA has been performed, and TI reserves the right to require revisions or additional information at TI's discretion, supplier acknowledges that such review is optional, and is not intended as an approval or endorsement regarding the sufficiency of the JHA.

Ladders

Ladder use must conform to OSHA regulations and manufacturer's instructions or specifications. Suppliers must provide fiberglass ladders for employees. Wooden ladders are prohibited on TI sites and metal ladders may only be used under appropriate circumstances with prior approval from the TI Supplier Manager.

Never stand on the top rung. Extension ladders shall not be separated under any circumstances.

If the ladder is stored upright, it must be secured to prevent it from falling.

The area around a ladder and work area must be barricaded if there is the potential for an overhead hazard.

Guidelines for ladder use:

- Use the appropriate ladder (step or extension) for the job
- Ladders must be inspected prior to each use and maintained in good working condition
- Use the appropriate height ladder
- Use a ladder rated for the load for which it will be used
- Maintain three points of contact with the ladder when climbing up and down
- Face the ladder while working
- If working in a building that requires shoe covers, ask the TI Supplier Manager about requirements for bootie use on ladders
- Personnel must be completely off the ladder before it is moved
- Hopping or attempting to move the ladder by the individual currently on the ladder is prohibited
- Remain centered on the ladder and never move the centerline of the body outside either rail
- Move or reposition the ladder to avoid leaning
- Carry tools or equipment in belts or bags or lift by a mechanical hoist or rope
- If working outside the confines of the ladder, a full body harness with lanyard must be used

Note: *The use of a spotter may be required when performing work from ladders. Refer to the Spotters section on page 65 of this Handbook for further guidance.*

Life Safety Systems

Before accessing or disabling life safety system panels, suppliers must get approval from the TI Supplier Manager and the TI Life Safety Systems owner for the building.

Suppliers may not tamper with Life Safety Systems.

Odor/Fumes/Dust Protocol

Offensive or strong odors in wafer fabs and other TI buildings are a major source of interruption to TI operations. TI's standard procedure is to take action (including evacuation) to protect workers until the source of the odor can be identified. Odors that cause false-alarm interruptions include fuel exhaust, cleaning chemicals, paints, solvents, and fiberglass resin vapors. Suppliers must notify the TI Supplier Manager at least 24 hours in advance of any tasks that might generate odors in TI buildings. This notification may be handled through the Work Permit process.

Overhead Work

Prior to work being performed in elevated locations, the area below must be barricaded with "Do Not Enter" tape and appropriate signs. Barricades shall be placed at a sufficient distance to ensure that falling objects will not fall outside of the barricade system. At a minimum, the signs should state "Danger, Overhead Work, Do Not Enter" and must include the name and contact number of the personnel performing the work. Workers in the area must wear hard hats and other PPE as required. Suppliers shall follow area-specific protocol or safety measures for overhead work. Depending on the work

area and potential for inadvertently contacting valves, sprinkler heads, EMOs, piping and other obstructions, a spotter may be necessary. Refer to the Spotters section on page 65 of this Handbook for further guidance.

Scaffolds

Scaffolding must be erected and maintained in compliance with OSHA regulations, manufacturer's specifications and industry standards. No scaffolds shall be erected, moved, dismantled or altered except under the direct supervision of the supplier's Competent Person. Suspension and custom-made scaffolding as described in 29 CFR 1926 must be certified by a registered Professional Engineer and be reviewed by the TI Supplier Manager prior to use.

There will be no access to the scaffolding until it has been inspected and approved by the Competent Person and the permit or tag is signed. The TI permit or tagging system requires the supplier's Competent Person to inspect and sign-off scaffolding each day, or as required by regulations. The tag or permit will be displayed at the job site.

The following guidelines must be followed when scaffolds are used to perform work at a TI site:

- Scaffolds must be equipped with guardrails, toe boards and outriggers.
- Persons working on scaffolds higher than 6 feet must wear fall protection unless guardrails, midrails and toe boards are installed.
- Footing or anchoring for scaffolding must be rigid and capable of carrying the maximum intended load without settling or displacement.

- Planking must be free of splits or cracks and must completely cover the work platform.
- Access ladders must be provided for each scaffold.
- Scaffolding that becomes weak or damaged must be placed out of service until repaired or replaced immediately according to manufacturer's specification.
- Scaffolding must be secured to a structure at intervals meeting OSHA regulations, and rolling scaffolds shall be used only on level, smooth surfaces and will not be moved until all workers have dismounted the structure.

Personal Protective Equipment

Suppliers are required to wear personal protective equipment (PPE) as required by their contracts, TI requirements and OSHA regulations, where a work area or work task hazard is not controlled, or in any designated areas where PPE is required. All PPE shall meet ANSI or other applicable standards.

General PPE Requirements:

- Hard-soled shoes or boots are required on construction sites. Soft-soled shoes (e.g., tennis shoes or deck shoes) are prohibited.
- Safety glasses with hard side shields must be worn in designated areas and construction sites, or when performing tasks which could generate flying objects or particulate debris, including, but not limited to, using hand tools or power tools, performing work above the ceiling or below the floor, working with particulates/dusty materials, etc.

- Hard hats must be worn in designated areas or where there is a risk of head injury from impacts, falling objects, or electrical shock.
- Other PPE may be required depending on the work or the work location.

TI does not provide or approve PPE for suppliers. PPE, training and associated medical screenings are the responsibility of the supplier, unless otherwise stipulated in writing by TI.

Powered Industrial Trucks

Powered industrial trucks (PITS - for example, forklifts, lift trucks, electrical carts and other material handling equipment) must comply with OSHA regulations and TI requirements. Electric forklifts and carts may be used within occupied buildings. Gasoline or petroleum-fueled PITs are prohibited within occupied buildings without prior approval of the TI Supplier Manager.

Other rules regarding powered industrial trucks:

- Must be inspected prior to use per manufacturer's recommendations.
- Pedestrians always have the right of way.
- Forklift operators must be trained, certified and licensed in accordance with OSHA regulations and manufacturer's recommendations.
- Certification shall be available upon request.

- A spotter may be required depending on the work location. Contact your TI Supplier Manager and refer to page 65 of this Handbook for further guidance.
- Forklifts must have functional seatbelts and be worn while PIT is in use.
- Forklifts must have alarms for traveling in reverse.

Powered platforms such as boom lifts and scissors lifts shall have the ability to be operated remotely and must be lowered while traveling. Other rules regarding boom lifts and scissor lifts:

- Fall protection must be used in boom lifts, but is not required in scissor lifts if the lift is provided with proper guard rails, the platform access is closed, and work does not require excessive reaching.
- Must be inspected prior to use per manufacturer's recommendations.
- Lift operators must be trained in accordance with OSHA regulations and manufacturer's recommendations.
- Certification shall be available upon request.
- A spotter shall be provided. Refer to the Spotters section on page 65 of this Handbook for further guidance.
- Access gate must be closed, or chains must be fastened across the platform opening while the lift is in use.
- Do not climb or stand on the basket or guardrails, or use planks or ladders to extend reach or attain a higher work position.
- Must have alarms for traveling In reverse.

Radiation Sources

Lasers, X-rays and other radiation sources are prohibited unless approved in writing by a TI laser/radiation safety officer. The supplier's radiation equipment shall be properly licensed or registered, and handled in accordance with applicable federal, state, and local regulations.

Prior to performance of any work at a TI site, radiation machines and laser suppliers shall be registered with the local governing agency and shall provide a copy of such registration to the appropriate TI laser/radiation safety officer. If the supplier uses or services radiation sources or provides servicing to radiation sources, the supplier shall be required to have its own radiation safety program and provide dosimetry training, as required, for its employees.

Radiographers shall provide proof of their current license and identification to the TI Laser/Radiation Safety Officer.

Construction laser operators shall carry with them proof of their training and qualifications (as stated in OSHA regulations) to operate lasers while on TI property.

Tritium Exit Signs

Tritium exit signs are self-illuminating signs containing a small amount of low-level radioactive material. The signs are labeled with "CAUTION RADIOACTIVE MATERIAL" on the back or side. Unless damaged or broken, a tritium exit sign does not present a hazard. A tritium exit sign should not be removed during construction or renovation unless authorized to do so.

Do not dispose of a tritium sign. If one is broken or damaged, call the TI Security Communications Center (see inside front cover for phone numbers).

Regulatory Inspections

It is TI's policy to assist regulatory agencies with investigations or inspections. TI has written procedures for handling such inspections, and members of TI's management team must attend. Suppliers must immediately notify the Security Communications Center and the TI Supplier Manager of OSHA, Environmental Protection Agency (EPA), city or other inspections so that a TI ESH Representative may accompany the inspection team.

Suppliers must ensure that the inspection does not begin until a TI ESH Representative is present. Suppliers are responsible for all fines and violations caused by their work.

Respiratory Protection

Only NIOSH/MSHA-approved respiratory protection may be used as the need is determined. Medical approval and training are required for use of respiratory protection. Written proof of training must be readily available.

Air-supplied respirators shall never be connected to the TI compressed air supply system. Only systems or cylinders with certified Grade D breathing air are acceptable for air-supplied respirators.

Roof Protocol

Prior approval and a work permit must be obtained from the TI Supplier Manager before accessing roof areas. Items shall not be stored on the roof or dropped from the roof to the ground. No liquids can be placed down roof drains. Smoking is prohibited on roof area.

Spotters

The purpose of a spotter is to ensure that co-workers avoid a safety or reliability incident. Use of a spotter should be considered during the pre-job assessment phase, and should be documented within associated JHAs when determined to be needed. The assessment should consider the relative congestion and clearances in the work area, and address the potential for inadvertently contacting valves, sprinkler heads, EMOs, cabling, piping and other obstructions.

Examples of tasks requiring spotters include transport of materials (e.g., ladders) greater than 8 feet in length on carts, using a boom lift or scissor lift, and working from ladders in congested pipe spaces and other support areas.

Spotters should have no other function than to provide an extra set of eyes on the work being performed and provide adequate warnings, when appropriate.

Spotters must remain in line-of-sight of the persons being spotted. If the spotter must leave the area, the work must be paused and persons working from ladders must come down until the spotter returns (note that workers who are tied off may remain in place, but cannot continue working). The TI Supplier Manager or TI ESH Representative can provide further guidance.

Tools and Equipment

Supplier-operated equipment must be in accordance with applicable laws, the manufacturer's instructions and TI requirements.

Supplier's tools are subject to inspection by TI. The appropriate tools and PPE must be used for the task. Suppliers will be responsible for their own tools and equipment and will not use TI's tools and equipment unless specified in the contract or authorized by the TI Supplier Manager. Supplier's equipment must be in good repair and inspected by the supplier daily prior to use.

Air Hoses

Air hose joints 1 inch or more in diameter must be secured to prevent whipping unless the source is provided with a quick disconnect or equivalent safety device. Compressed air is the only gas that may be used in hoses. No inert gases, such as nitrogen, helium or argon, shall be used because they can rapidly deplete oxygen levels in the event of failure.

Air hoses will be regulated to 30 psi or less. Using air hoses to clean clothing, hair or body parts is prohibited. Air hose use is also prohibited in work areas that may contain hazardous materials such as arsenic or lead.

Powder-Actuated Tools

In general, the use of powder-actuated tools is prohibited in TI buildings. In the event that TI allows limited use, documentation of operator safety training is mandatory. Non-essential personnel shall be removed from the work area.

Electric and Gas-Powered Heaters

Electric and gas-powered heaters must be approved by the TI Supplier Manager before use.

Drilling, Cutting and Coring

Drilling, cutting and coring into/through walls, floors or columns is prohibited without prior approval from the TI Supplier Manager. Where dust may be generated contact Site Operations (e.g., control room) or TI Supplier Manager to ensure that nearby sensors are not inadvertently activated.

Walking and Working Surfaces

Suppliers shall keep clear passageways, aisles, access areas and exits. Temporary walking and climbing surfaces will meet applicable slope, railing and weight limit requirements.

Cable trays, furniture, duct work, valves, gauges, piping systems and support equipment shall not be used for climbing, walking, working, sitting or support of other equipment.

Working Alone

Working Alone shall not be allowed during the following activities;

- Energized electrical work
- Permit required confined space entry
- Working from heights using personal fall arrest systems
- Emergency responses involving hazardous materials, fire responses and/or rescue operations
- If ESH assesses and determines the hazard is too high for alone work

Work Permits

All work managed by TI Facilities requires a Work Permit for the purpose of identifying, mitigating, and managing any potential safety risks, regulatory compliance and reliability of critical operations to avoid/prevent human errors. A JHA (Job Hazard Assessment) and/or Reliability risk assessment must be prepared by the project manager or person responsible for performing the work.

Work Permits with JHAs and any required supplemental permits/documentation must be reviewed/approved prior to beginning work and must be available for review at the jobsite.

Pre-Task Field assessment shall be performed by responsible TI personnel to ensure Work Permit scope, safety/JHA, and reliability hazard assessments have been fully comprehended. Refer to the Job Hazard Assessment section on page 56 of this Handbook for further guidance.

Acronyms

ANSI	American National Standards Institute
ACM	Asbestos-Containing Material
CETRAQ	Cost, Environmental and Social Responsibility, Technology, Responsiveness, Assurance of Supply, Quality
CFR	Code of Federal Regulations
CPR	Cardiopulmonary Resuscitation
ESH	Environmental, Safety and Health
EPA	Environmental Protection Agency
GFCI	Ground Fault Circuit Interrupter
JHA	Job Hazard Analysis
LEL	Lower Explosive Limit
SDS	Safety Data Sheet
MSHA	Mine Safety and Health Administration
NIOSH	National Institute of Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
PVC	Polyvinyl Chloride
RTV	Recreational Terrain Vehicle
ES	Emergency Services
TI	Texas Instruments

References

OSHA	http://www.osha.gov
EPA	http://www.epa.gov
ISO 14001	Environmental Management Systems Requirements with Guidance for Use
ISO 45001	Occupational Health and Safety Management Systems - Requirements with Guidance for Use

Questions and Comments

Direct questions or comments about this Handbook to your supervisor, TI Supplier Manager or TI ESH Representative.