APPENDIX 7 – Cummins Supplier Safety Manual

Cummins Safety System

World Class Safety Performance

Cummins Supplier Safety Manual

SCAN for Safety

Spot, Challenge and Notify

INDEX

1.0 Introduction

The *Supplier Safety Manual* contains Cummins *Minimum Occupational Safety and Health Requirements* applicable to all Suppliers.

This Supplier Safety Manual is not intended to replace any existing site level procedures or operational specifications. Where clear instructions or requirements are not available, the requirements as explained in this manual must be adopted. In addition to the requirements explained in this manual, all applicable regulations must also be met.

Sections of this manual will apply to Suppliers working in all of Cummins' premises or outside (e.g., working in Customer premises on behalf of Cummins), whether owned or leased.

The manual does not relieve Suppliers of their responsibility for safety, health, and environmental compliance under law, code, ordinance, or statute.

The Manual provides the Cummins minimum acceptable standards for the management of health and safety aspects of contractual work relating to: construction, building maintenance, equipment maintenance and repair, etc. Since each contractual project/ outsourced activity will have its own unique requirements for management, the level of implementation of this guidance must be subject to local management decision and the appropriate degree of application will be based on specific circumstances. In certain cases, more stringent additional measures will be required based on nature and scale of the activity and/ or the risks involved.

Suppliers must be aware that should they fail to comply with the requirements or act in any other way which is deemed to be unsafe, they may be required to cease work immediately and may not be allowed to return until all required corrective actions are in place to the satisfaction of site management.

2.0 Cummins Supplier Safety Guidelines (Minimum Requirements)

2.1 *Alcohol and Drug Abuse Policy*

2.1.1 Suppliers must be asked to develop and enforce a process that prohibits the possession, distribution, promotion, manufacture, sale, use, and abuse of illegal drugs, drug paraphernalia, controlled substances, and alcoholic beverages by their employees while on Cummins premises or while working for or on behalf of Cummins.
2.1.2 Supplier's employees should be prohibited from reporting to the premises under the influence of alcohol or drugs which affect their working ability or safety, including but not limited to their alertness and coordination.

2.2 *Asbestos*

2.2.1 Suppliers should comply with regional standards and to regulations set forth by the local authority having jurisdiction.
2.2.2 Before beginning any project that will require demolition and/or renovation of an existing Cummins facility, the Site and Corporate Environmental Department should be contacted to inspect the area for asbestos containing material.
2.2.3 Only Suppliers trained in removal of asbestos should be eligible for asbestos removal. All removal work should be managed and approved by the Site and Corporate Environmental staff.
2.2.4 Construction employees, maintenance employees, and all other employees who could potentially disturb asbestos containing materials in the course of their work activities should be trained in identification of materials which may contain asbestos.
2.2.5 Materials which may contain asbestos include but are not limited to: lab tops, building siding, gaskets, floor tile, pipe insulation, fume hood lining, flexible ductwork connections, ceiling ties, tile adhesives, roof mastic, and roofing materials. If any of these materials are or will be disturbed during the course of work (through activities including but not limited to drilling, cutting, grinding, sanding, abrading, removal or demolition), the Supplier's On-site coordinator should inform Cummins Designated On-site Supplier Manager, who will then inform the Corporate Environmental Department. The Cummins Designated On-site Supplier Manager will then contact the appropriate personnel for testing and removal as necessary.
2.2.6 The Supplier should ensure that all workers whose activities involve contact with asbestos should receive the appropriate training required for the specific class of work.
2.27 The Supplier should ensure that any asbestos-containing waste resulting from work described in this section is disposed of in accordance with all applicable federal, state, and local requirements as well as Cummins policies and/ or guidelines.

2.3 *Barricades*

2.3.1 Any area where construction or maintenance activities could potentially harm personnel working or walking by should be properly barricaded and identified with hazard warning signage. These areas include but are not limited to: Elevated work (including work from personnel lifts and scaffolds), work outside or near high traffic areas, atmospheric hazards, crane radius, excavations, pedestrian traffic, etc.
2.3.2 Temporary barricades should be capable of withstanding 91 kgs/ 200 lbs of force in any direction and should be secured to allow for no more than 8 cms/ 3 inches of movement.
2.3.3 The use of yellow "CAUTION" tape and a physical barrier is necessary when a hazard exists that has potential to cause personal injury or property damage.
2.3.4 Red "DANGER" tape is used in areas considered immediately dangerous to life of health. Under no circumstances should the perimeter of this area be entered without permission from the person or group who created the hazard.
2.3.5 For areas where "DANGER" is used, then physical barriers should be erected and hazard signs should accompany the barricades and the hazard warning tape notifying others of the reason for the barricaded area.
2.3..6 Barricades should be constructed to prevent unauthorized personnel entry and to isolate or contain such hazard.

2.4 *Chemical Hazard Communication (Haz Com)*

2.4.1 The Supplier should ensure training and chemical hazard information is available to all their employees.
2.4.2 Cummins Material Safety Data Sheets (MSDS) should be made available to Supplier's employees, if required. Cummins provided MSDS's are intended for on-site use only and should not be permitted to be removed from the plant site.
2.4.3 Suppliers should have an MSDS available for all hazardous materials and all chemicals should be reviewed and approved by the Cummins site Safety Manager before they are brought on site.
2.4.4 Whenever materials are transferred from a labeled container (from a manufacturer) to a secondary container, the secondary container should also be labeled. The NFPA Label should be clearly visible (also ensure compliance to local regulatory requirements). The label should also contain information including the chemical name, hazard rating information, emergency action and required personnel protective equipment as well as emergency contact information for the manufacturer.
2.4.5 Supplier's employees who perform work in a laboratory should be trained in chemical and other potential laboratory hazards and controls.
2.4.6 The Supplier should establish and maintain an effective written chemical hazard program. This plan should be available upon request.
2.4.7 Emergency Showers and Emergency Eye Wash capable of water delivery should be located and available in the hazardous chemical storage area and where hazardous chemicals are used by the supplier.
2.4.8 The Cummins Designated On-site Supplier Manager should ensure that the Supplier is trained in Cummins (site level) Chemical Hazards, its spill contingency and Emergency Response Action Plan.

2.5 *Clothing, Hair and Jewelry*

2.5.1 Supplier should ensure proper clothing and hygiene, in conjunction with personal protective equipment, while working on Cummins property.
2.5.2 Dress should be appropriate for the job task and personal protective equipment for the identified hazard.
2.5.3 Shorts, tank tops, off shoulder and chest exposure, or clothing that does not cover the torso and midriff are prohibited.
2.5.4 Shirts and blouses must be properly fitted, and tails tucked inside. Loose clothing which may become entangled, or caught on/ or by equipment, rotating or reciprocating and moving parts are prohibited.
2.5.5 Long sleeves may be required for some areas of the plant and prohibited in others.
2.5.6 Additional protection should be required when performing hot work, working in or around pipe chases, tanks, or hazardous areas.
2.5.7 Clothing should meet Flame Resistant requirements as set by appropriate standards/ code while working on or near energized equipment or systems (refer NFPA 70E: current edition also)
2.5.8 Scalp and facial hair should be restrained and secured.
2.5.9 Wearing of metal jewelry in production, construction, electrical and lab area are prohibited.
2.5.10 Open toe and open heeled sandals and canvas shoes, including heels without a stable foundation, and a height greater than 2 cms/ 0.75 inch are prohibited in production, construction, material handling, maintenance, internal and external dock, waste treatment and tank facilities, and all laboratory areas and posted locations. Foot protection should be, minimum, ANSI approved safety shoes.
2.5.11 In the event there is a conflict in dress required specific to an identified hazard and dress that is practiced as a result of a bona fide religious affiliation, it is the responsibility of the Supplier to resolve the issue in such a manner that worker health and safety is maintained with conformance to safety standards.

2.6 ***Compressed Gas Cylinders***

2.6.1 Compressed gas cylinders should be stored (vertical and secured) in the designated areas only.
2.6.2 Compressed gas cylinders should be clearly marked for the type of gas contained.
2.6.3 Oxygen and fuel gas cylinders should be stored at least 6 mts/ 20 ft apart or separated by a 5-foot high firewall with a 30-minute rating.
2.6.4 All cylinders should be stored and transported in a capped, secured and vertical position. Caps are required when not in use.
2.6.5 Compressed gas cylinders should be stored on "burning carts" only if the regulators and hose are disconnected after use and their caps firmly secured.
2.6.6 Cylinders used in association with oxy-gas welding or cutting activities should be equipped with flashback arrestors (preferred both at nozzle end and cylinder end).
2.6.7 Compressed gas cylinders in confined spaces are prohibited.

2.7 ***Compressed Air***

2.7.1 Compressed air should be limited to 30psi for manual operation.
2.7.2 Use of compressed air for personal cleaning is prohibited.
2.7.3 Compressed air nozzles should comply with regulatory standards and should include a chip guard and blow by venting.
2.7.4 Portable compressed air generating units should be thoroughly inspected and certified prior to the use.

2.8 ***Confined Space Entry Procedures & Permits***

2.8.1 A confined space is defined as an area that has a limited or restricted means of entry or exit, is large enough for a person to enter, and is not intended for continuous human occupancy; or the potential for oxygen deficient or hazardous atmosphere.
2.8.2 Entry into a confined space without performing a hazard assessment, testing and the issuance of a Confined Space Permit is prohibited.
2.8.3 Cummins sites have areas that are considered confined spaces. These include but are not limited to: elevator pits, tanks, still, reactors, boilers, pits, silos, ventilation and exhaust ducts, some false ceilings, sewers, vats, manholes, electrical vaults, pipelines, spaces between walls, and ditches.
2.8.4 All confined space entry operations involving the Suppliers should be coordinated and the coordination of entry activities should be sufficient to ensure that the hazards present in the space and the hazards that could be generated by the work activities in the space are clearly understood by all parties involved, and these hazards have been eliminated and/or controlled.
2.8.5 Equipment Requirements

The following equipment is minimum required when performing confined space entry operations at a Cummins facility,

- Confined Space Entry Retrieval/Rescue Devices,
- Fall and Retrieval Rescue Harnesses (Should be non-conductive coated D-loops for electrical manhole use),
- Atmospheric Testing Monitor capable of at least measuring Oxygen, Carbon Monoxide and Lower Explosion Limit (LEL) and those for the specific chemical hazard,
- Personal atmospheric monitors for entrants that measure at least Oxygen, Carbon Monoxide and Lower Explosion Limit (LEL) and the specific chemical hazard
- Personal Protective Equipment,
- Confined Space Entry Permit,
- Ventilation equipment,
- Energy Control.

2.8.6 The Supplier should ensure that those individuals who perform confined space entry operations are medically fit, trained, authorized, and skilled in hazard assessment, equipment use, and rescue as required by applicable standards.
2.8.7 The Site Emergency Response Team and Security should be notified prior to the initiation of confined space work.
2.8.8 The monitoring should include a check for oxygen level, percent (%) LEL, and any other atmospheric hazards which may be reasonably expected.
2.8.9 The Supplier personnel are required to perform continuous monitoring during the entry.
2.8.10 The space should be monitored after all breaks, lunches and continuously upon initiation of work.
2.8.11 The Supplier should order immediate evacuation for any change in conditions which could reasonably impact the safety of the entrants.
2.8.12 While the work is being performed the Supplier should ensure an attendant is stationed outside the space at all times.
2.8.13 The environmental industrial hygiene monitoring results should be within the established threshold limit values.
2.8.14 The issuer of the permit will determine sources of power, fluids, gases, ventilation, and other means of disturbing the work area within the confined space. Potential disturbances must be locked, tagged, and secured prior to allowing entry.

2.9 ***Cranes and Rigging***

2.9.1 The Supplier should submit a written lifting plan. The Cummins Site Safety Manager should review the plan. In the event that the plan is deficient, it is the responsibility of the Supplier to correct the identified deficiency. The responsibility for the crane lifting plan is solely that of the Supplier. All lift plans must contain a section regarding handling emergencies should a crane collapse, turn over, or drop a load.
2.9.2 Suppliers whose activities require the use of cranes are responsible for proper set up and operation**.** Evidence of up-to-date crane inspections (annual) must be provided prior to use. Cranes must be rejected for any defect, no matter how minor.
2.9.3 All cranes on-site should be in safe working condition and supplier's employee should inspect the crane before use. All exposed gears, belts, coupling, fans etc. should be guarded.
2.9.4 The Supplier should ensure their employees are trained and authorized to operate the equipment. Documentation of operator training, licenses and authorization should be available upon request.
2.9.5 Site should organize detailed orientation programs to certify the operators to operate such equipment at site. Such programs should specifically address the site specific safety rules required to be followed while operating cranes.
2.9.6 Cranes should be visually inspected both daily and prior to use accompanied by inspection records as specified by the standard. A documented annual inspection log should be kept with the crane at all times. Boom cable installation documents should be available upon request.
2.9.7 Working under suspended loads is prohibited.
2.9.8 Outriggers should be fully extended and remain firmly on the ground. Cribbing is necessary when the ground cannot support outriggers. Boom angle indicators and load charts and a standard hand signal chart should be visibly posted in the crane.
2.9.9 While moving a crane, the "headache" ball should be retracted.
2.9.10 Minimum clearance between power lines and any part of the crane should be at least 3 mts/ 10 ft. For power lines rated over 50 KV, additional clearance is required.
2.9.11 Suppliers should verify that all utilities have been disconnected.
2.9.12 Supplier must contact local utility service for power disconnect and coordinate service interruption with the site's facility staff.
2.9.13 The safe design capacity of a crane should not be exceeded and should comply with crane-type specific standard.
2.9.14 A qualified rigger must inspect rigging equipment prior to each use and immediately remove from service and destroy any damaged or defective slings.

2.9.15 Rigging devices, including slings, must have permanently affixed identification stating size, grade, rated capacity, and manufacturer.
2.9.16 Remove rigging not in use from the immediate work area.
2.9.17 Hang rigging and slings on a rigging frame to eliminate bends and kinks.
2.9.18 Do not leave slings lying on the ground or exposed to dirt or the elements.
2.9.19 Do not shorten slings using bolts, knots, or other devices.
2.9.20 A licensed engineer or the manufacturer must certify lifting beams and spreader bars as to their configuration and lifting capacity.

2.10 *Crane Suspended Work Platforms*

2.10.1 Suspended work platforms should meet all applicable standards and be stamped with specifications that have been determined acceptable by a certified Professional Engineer (PE).
2.10.2 Prior to any lift, there should be a test lift performed prior to performing work from a suspended work platform.
2.10.3 Suppliers should submit a lifting plan that should be reviewed by the site safety professional and should pre-plan all Lift and Crane work activity.
2.10.4 Cranes may be used to hoist, lower, and suspend personnel on a work platform ONLY when such action results in the least hazardous exposure to employees.

2.11 *Demolition*

2.11.1 Prior to performing demolition activity, the Supplier should submit a written demolition safety plan. In the event that the plan is deficient, it is the responsibility of the Supplier to correct the identified deficiency. The responsibility for the demolition plan is solely that of the Supplier.
2.11.2 Suppliers should verify that all utilities (including electrical and other service utilities) have been disconnected.
2.11.3 Combustible materials should be separated prior to performing demolition and other hot work including welding, cutting, or use other spark producing tools or equipment.
2.11.4 Proper fire protection devices should be in place before demolition operations begin.
2.11.5 Special attention should be given to hazard analysis to identify hazards created by demolition operations.
2.11.6 Warning signs and substantial barricades should be in place so that persons who are not involved in the demolition are prevented entry into demolition areas.
2.11.7 Demolition work requires the issuance of a demolition work permit and hot work permit (if necessary).
2.11.8 Additional precautions, as appropriate, must be in place if use of explosives and blasting operations are to be carried out as part of the demolition activity.

2.12 *Driving and Parking*

2.12.1 All posted speed limits, traffic signs, and signals to be observed by the Supplier and their employees while on Cummins property.
2.12.2 Suppliers who drive on Cummins property should have a valid driver’s license.
2.12.3 Suppliers should park only in designated areas.
2.12.4 Attending phone calls and text messaging while driving are strictly prohibited.
2.12.5 Use of seat belts while driving and for the passengers is mandatory while driving within Cummins premises and/ or for Cummins business purposes.
2.12.6 Crash helmets of approved make shall be worn by motor cyclists.

2.13 *Electrical Safety*

2.13.1 The Supplier should comply with all applicable local, state, federal and national law specific to Hazardous Energy Control, Lockout and Tagout, and includes other high intensity energy sources.
2.13.2 Ground fault circuit interrupters (CGCI’s) are required for use with all temporary power.

2.13.3 Only extension cords meeting the ANSI/ local standards may be used. Flat extension cords should not be used.
2.13.5 All extension cords should be inspected prior to use and if deficiencies are observed, the cords should be destroyed.
2.13.6 Explosion proof electrical equipment should be used in all flammable or hazardous areas.
2.13.7 Before service or maintenance is performed which could expose the craftsperson to any form of hazardous energy release, energy control and lockout/tagout requirements should be followed.
2.13.8 Identification and isolation of all energy source to "zero energy state" should be achieved. Any alternate process should provide equivalent employee protection.
2.13.9 Only qualified and authorized electricians familiar with standard code requirements and trained on site specific safety requirements are to be allowed to perform electrical work.
2.13.10 Supplier's employees will not be permitted to work near an unprotected electrical power circuit unless they are protected against electrical shock by de-energizing the circuit and grounding it, or are protected by effective insulation or other means, and are wearing required personal protective equipment. Work around energized systems must be done in accordance with the site-specific procedure.
2.13.11 Do not operate electrical tools or equipment in wet areas or areas where potentially flammable dusts, vapors, or liquids are present, unless specifically approved for the location.
2.13.12 Switches must be enclosed and grounded**.** Panel boards must have provisions for closing and locking the main switch and fuse box compartment.
2.13.13 Avoid wearing rings, necklaces, or other conductive apparel.
2.13.14 All electrical panels must be of the dead front type.
2.13.15 Should a circuit breaker or other protective device "trip", ensure that authorized electrician checks the circuit and equipment and corrects problems before resetting the breaker.
2.13.16 Provide suitable means for identifying electrical equipment and circuits, especially when two or more voltages are used on the same job. Mark circuits for the voltage and the area of service they provide.
2.13.17 Do not leave electrical boxes, switch gear, cabinets, and electrical rooms open when not directly attended. Insulate energized parts when covers have been removed or doors are ajar. Do not use cardboard, plywood, or other flammable material to cover energized circuits.
2.13.18 Site should minimum confirm to the requirements as per NFPA 70E : current edition (standard requirements) and all regional/ local regulatory requirements before permitting to work on live electrical installations or equipment that could expose a person to live electrical parts.
2.13.19 Lockout/ Tagout should be strictly as per the site's procedure based on Cummins Corporate procedure and policy on Lockout/ Tagout. Supplier's employees should be authorized to perform a Lockout or a tagout only if they are trained and certified as a Lockout Tagout authorized operator.

2.14 ***Excavations***

2.14.1 Prior to performing excavation activity, the Supplier should submit a written excavation safety plan. In the event that the plan is deficient, it is the responsibility of the Supplier to correct the identified deficiency. The responsibility for the excavation plan is solely that of the Supplier. The Supplier should contact the local utility service provider and coordinate service interruption with the Site's facility staff.
2.14.2 All excavation should comply with local regulatory requirements and applicable law and should include warning systems.
2.14.3 All excavations greater than 1.2 mts/ 4 ft in depth should be identified and constructed under the supervision of a competent person (if specifically mentioned in the legal standards). It is the Supplier's responsibility to provide competent persons and comply with all trenching regulations. Any work carried out near an unprotected excavation of greater than 1.2 mts/ 4 ft in depth (where there is a risk of fall) must be considered for fall protection requirements similar to Working at heights. A Height Work Permit must be in place to carry out those tasks.

2.14.4 Each person working in excavations greater than 4 feet in depth should be protected from cave-ins by an adequate protection system. Some examples include:

- Trench shield
- Sloping or benching systems
- Timber shoring
- Aluminum hydraulic shoring

When soil conditions are unstable, excavations less than 1.2 mts/ 4 ft must also be sloped, shored, or supported as required.

2.14.5 A Confined Space Entry Permit is required before working in trenches and excavations greater than 4 feet in depth.

2.14.6 Proper barricades should be extended around the outside of the excavation.

2.14.7 A stairway, ladder or ramp should be in place for all excavations deeper than 1.2 mts/ 4 ft in depth so as to require no more than 8 mts/ 25 ft of lateral travel for employees. Ladders must be in good condition, extend from the floor of the trench to three feet above the top of the excavation, and secured at the top**.**

2.14.8 Daily inspections of excavations, the adjacent areas, and protective systems should be made by an authorized person for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions. An inspection should be conducted by the competent person prior to the start of work and as needed throughout the shift. Inspections should also be made after every rainstorm or other hazard increasing occurrence.

2.14.9 Where the competent person finds evidence of a situation that could result in a possible cave-in, indications of failure of protective systems, hazardous atmospheres, or other hazardous conditions, exposed employees should be removed from the hazardous area until the necessary precautions have been taken to ensure their safety.

2.14.10 An Excavation Permit is required for drilling operations in order to prevent drilling in restricted areas and also to ensure safety in drilling operations.

2.15 ***Facilities***

2.15.1 Break areas should be kept clean with daily trash removal by the Supplier.

2.15.2 Eating and drinking may be prohibited in some areas.

2.15.3 Supplier’s employees should not be allowed to enter Cummins buildings or other work areas without direction from the Supplier On-site Coordinator or the Cummins Designated On-site Supplier Manager.

2.16 ***Fire Protection, Prevention and Reporting***

2.16.1 Hot work permit and a dedicated fire watch is required when performing hot work.

2.16.2 Fire extinguishers and a dedicated fire watch are to be in the proximity of the work area when hot work is being performed.

2.16.3 In the event of a fire, activate the site’s emergency response system before attempting to extinguish the fire.

2.16.4 It is the responsibility of the Supplier to provide fire extinguisher as required to perform work. In the event that a Cummins extinguisher is used, the used extinguisher should be removed from service and immediately replaced with a charged extinguisher. The used extinguisher should be placed in the identified "re-charge area."

2.16.5 Supplier must notify the Cummins safety department immediately regarding any incidents and support the Incident Investigation process to determine root cause of the fire.

2.16.6 The Supplier to ensure that all their employees (depending upon the activity and the risks associated with it) are trained in the use of portable fire extinguisher.

2.16.7 The Supplier to ensure that all personnel are trained in the site’s emergency Plan.

2.16.8 Temporary fuel tanks (gasoline, diesel, and fuel oil) are only allowed if approved.

2.16.9 Tanks must meet construction and design criteria.

2.16.10 Temporary fuel tanks may require a permit in accordance with local and state regulations.

2.16.11 Temporary fuel tanks should have required marking and signage. Provide secondary containment where required.

2.17 *Flammable Material Storage/Flammable and Combustible Liquids*

2.17.1 Only approved containers with appropriate NFPA labels/ labels confirming to local/ regional regulatory requirements should be used for storage and transport of flammable materials.
2.17.2 Paint, solvents, paint thinners, and other materials cannot be stored inside new construction areas unless the building is protected with operational sprinklers or stored in an approved container and cabinet in limited quantity.
2.17.3 Flammable materials are not to be stored in areas around stairways, exits or normal walking areas.
2.17.4 Outdoor storage tanks should be grounded and placed in containment dikes.
2.17.5 Gasoline should be stored only in areas approved and assigned to the supplier.
2.17.6 Warning signs should be posted in areas where flammable materials are stored.
2.17.7 Proper fire extinguishers should be kept within 7.6 mts/ 25 ft of a hazardous materials storage area.
2.17.8 Store and handle flammable and combustible materials with regard to their fire characteristics.
2.17.9 Do not drive trucks and motor vehicles within the perimeter of buildings, unless they are designed for that purpose.
2.17.10 Provide proper safety waste cans for disposing oily rags or combustible materials.

2.18 *Grinders*

2.18.1 All grinding wheels should be inspected for cracks or structural deficiencies before mounting and again prior to each use.
2.18.2 Proper guards should be in place and set at the proper distance. Grinders without guards should be tagged and removed from service immediately.
2.18.3 Approved face shield and/or grinding goggles are required. Safety glasses should be worn when using a face shield for secondary eye protection in grinding, chipping and compressed air operations.
2.18.4 Only properly trained persons must operate a grinder. All grinder must be locked (power off) while not in use.

2.19 *Handling and Storage of Gas Cylinders*

2.19.1 A suitable cylinder truck with chain or other secure form of fastening must be used to keep cylinders from being knocked over while in use or in storage. An acceptable cylinder wrench must be installed on each cylinder truck.
2.19.2 Cylinders must be legibly marked to identify content.
2.19.3 Do not store cylinders of oxygen near cylinders of acetylene or other fuel gas. Separate cylinders by a minimum of 6 mts/ 20 ft, or with a five-foot non-combustible barrier with at least a two-hour fire rating. Do not place cylinders where they can contact an electrical circuit.
2.19.4 Keep oxygen cylinders, cylinder valves, couplings, regulators, hoses, and apparatus free from oil and grease. Do not handle oxygen cylinders or apparatus with oily hands or gloves.
2.19.5 Keep cylinders in storage away from sources of heat, flame, and direct sunlight. Remove combustibles from the storage area.
2.19.6 Close valves on empty cylinders. Keep valve protection caps in place except when cylinders are in use or connected for use.
2.19.7 Provide a suitable platform when moving cylinders by crane or derrick. Do not use slings, hooks, or electric magnets. Cylinder caps should remain installed on the cylinder until connected to equipment. Keep the cylinder cap near the cylinder when in use.

2.19.8 Secure compressed gas cylinders in an upright position at all times, except for short periods of time when cylinders are being hoisted or carried. Empty cylinders must be labeled "Empty." If a cylinder is not equipped with a valve wheel, keep a key or cylinder wrench on the valve stem while in use. Acetylene cylinders should be protected in a cradle while being transported by crane or derrick.
2.19.9 Do not store or take compressed gas cylinders into closed or confined areas, or near elevators or stairs.
2.19.10 Store compressed gas cylinders in well-ventilated, proper construction storage racks that are labeled for the type of gases to be stored. If a leak develops in a cylinder and it cannot be immediately corrected, move the cylinder to a safe location outside the building.
2.19.11 Visually inspect cylinders to ensure they are safe before use.

2.20 *Hazardous Material Guide/Storage/Containment*

2.20.1 All materials stored outside should be contained and stored in a manner that prevents spills into the storm or sanitary sewer systems.
2.20.2 Secondary containment should be provided for all containers with a volume of greater than 40 gallons or if deemed necessary by Cummins personnel.
2.20.3 Secondary containment should be constructed with materials compatible with the hazardous material and have a volume capacity equal to or greater than 110% of the largest single container.
2.20.4 Hazardous materials that are stored outside should be protected from the weather with spill containment.
2.20.5 Supplier should submit to the site safety department a list of all chemicals and a MSDS with 100% content disclosure for each chemical planned for use during the project.
2.20.6 All chemicals should be approved by the site Safety Manager prior to bring any chemical on-site.
2.20.7 Supplier must comply to the Bloodborne pathogens regulatory standards, as applicable.

2.21 *Hot Work Procedures & Permits*

2.21.1 A hot work permit should be issued before:
- Using any spark producing device in a hazardous area.
- Performing high spark producing activity (grinding, chop saws, etc.).
- Performing open flame activity (welding, cutting, heating, tar pots, roof work, etc.).

2.21.2 Should expire in 8 hours from the time of issue.
2.21.3 Work performed in areas designed for welding and hot work and Isolated or protected areas designated as a construction hot work area do not require the issuance of a Hot Work Permit.
2.21.4 The Supplier should provide fire extinguishers and fire watch for all operation requiring Hot Work Permits.
2.21.5 Permits should be issued prior to the start of work and at the beginning of each shift (these permits should be filled out in their entirety and displayed prominently at the job location).
2.21.6 The Supplier should ensure that its employees have an understanding of the basic anatomy of fire, extinguisher use, and the Hot Work Permit procedure. Fire suppression should be limited to incipient level.
2.21.7 All Hot Work permits are null and void in the event of an emergency or fire service interruption.
2.21.8 Suppliers must follow site-specific procedures for welding, cutting, and burning.
2.21.9 Welding, cutting, or spark-producing work is prohibited until the appropriate facilities operations or site safety organizations have issued the proper permits.
2.21.10 Within areas with sprinkler protection, the sprinkler system should be operational at all times during the performance of open flame work — unless the site safety organization has issued special permission. Under no circumstance are hot-work permits to be issued for areas in which the sprinkler system is impaired or malfunctions.
2.21.11 Each welding, cutting, or spark-producing operation requires a fire watch.

2.21.12 A fire watch consists of a properly trained person standing by with an approved fire extinguisher provided by the supplier.
2.21.13 The fire extinguisher must be of a size and type (5.0kgs/ 10 lb. ABC or BC) that will extinguish a fire that may ignite on materials being welded or cut or on materials immediately adjacent to welding and cutting operations.
2.21.14 The fire-watch person must remain in the area for a minimum of 60 minutes after the hot work is completed to ensure the site is safe.
2.21.15 Frequently inspect hoses, lines, and leads for leaks, worn areas, and loose connections.
2.21.16 Remove combustible materials from the area prior to beginning work.
2.21.17 Provide flash arresters fitted to the regulators at both the fuel and oxygen cylinders. Additional flashback arresters may be fitted to the torch for oxygen and acetylene hoses.
2.21.18 Welding return current must not pass through any of the following:

- Acetylene, fuel gas, oxygen, or compressed gas cylinders
- Tanks or containers used for gasoline, oil, or flammable/combustible material
- Pipes carrying compressed air, steam, gases, or flammable/combustible liquids
- Conduits carrying electrical conductors
- Chains, wire ropes, metal hand railings, ladders, machines, shafts, bearings, or weighing scales
- Critical instrumentation

2.21.19 Shield the arc welding and cutting operations by using non-combustible or flame-proof screens.
2.21.20 Provide mechanically strong and electrically adequate ground for the service required.
2.21.21 Support and elevate welding cables to allow the safe passage of workers and equipment.
2.21.22 Keep welding cables away from ladders and stairways. Prevent doors from damaging welding cables.
2.21.23 Use insulated cable connectors to couple or uncouple several lengths of cable for a welding circuit. Use insulated cable connectors on the ground line and the electrode holder line.
2.21.24 Use an electrode holder of adequately rated current capacity, insulated to protect the operator against possible shock, and to prevent a short or flash when laid on grounded material.
2.21.25 Do not use cables with worn or damaged insulation.
2.21.26 Insulate connection lugs on welding machines.
2.21.27 Wear suitable eye protection and other personal protective equipment.
2.21.28 Ensure adequate ventilation.
2.21.29 When welding overhead, take precautions to prevent sparks from falling on other workers.
2.21.30 Do not use regulators, leads, torches or other associated equipment that is damaged or defective.

2.22 ***Housekeeping***

2.22.1 Walking and working surfaces in work area should be free of excess debris at all times. Hazards presented by inadequate housekeeping include but are not limited to:

- Slipping hazards (water, oil, grease, etc.)
- Tripping hazards (cords, pipe, etc.)
- Fire hazards (trash, flammable liquid storage, etc.)
- Negative impact on overall project safety.

2.22.2 All aisle, stairways, doors, exits, and means of emergency exit should remain clear.
2.22.3 Storage on, in or under aisle, stairs, doors, exits and emergency exits is prohibited.
2.22.4 Any item that could create a slip or trip hazard should be removed immediately.
2.22.5 Materials that are stacked should be secured.
2.22.6 Compressed air should not be used for cleaning purposes.

2.22.7 At job completion, the Supplier should do a final inspection of the site and should be asked to submit a report. It is the responsibility of the Supplier to ensuring the area is clean and hazard free.
2.22.8 Personal appliances and use of non-standard industrial grade electrical equipment is prohibited.

Note: Good housekeeping is mandatory. Suppliers must keep their work area neat, clean, and orderly. If a Supplier's work area is not kept clean, the site may have the area cleaned and charge the cost to the supplier. Site may also stop work until the area has been cleaned.

2.23 ***Lead***

2.23.1 Before beginning any project that will disturb surfaces or any other materials that could contain lead, the surfaces should be analyzed for lead content and handled according to all lead standards. Disturbance of lead containing materials could occur through activities including, but not limited to the following: blasting, welding, cutting, torch burning, sanding, scraping, grinding, or demolition. Lead is commonly found in paints, varnishes, primers, piping, solder, and flashings.
2.23.2 Only Supplier's employees trained and competent in the lead standard set forth by the authority having jurisdiction should be allowed to perform lead abatement work or any other activity that could result in exposure to lead.
2.23.3 Construction employees, maintenance employees, or any other employees who may disturb lead containing materials in the course of work activities should be trained in the identification of potential lead containing materials.
2.23.4 Suppliers performing work described in this section should first submit a written compliance plan to Cummins. This plan should include respiratory protection, medical surveillance for employees, regulatory monitoring and decontamination procedures, and all other information required by the standard as well as any other applicable laws.
2.23.5 Initial exposure assessment monitoring should be performed to determine approximate lead exposure levels. The results of the monitoring should determine the specific provisions of the standard that apply as well as any other federal, state, or local requirements. During the exposure assessment period, the appropriate employee protective measures should be implemented based on the type of work activity being conducted.
2.23.6 The Supplier should ensure that any lead containing waste resulting from work described in this section is deposed of in accordance with all applicable federal, state and local requirements as well as Cummins policies or guidelines.

2.24 ***Lighting***

2.24.1 All work areas should have sufficient lighting to illuminate the work surface and the immediate surrounding area.
2.24.2 Temporary construction lighting should be installed by qualified personnel and to regulatory standards.
2.24.3 Temporary lighting should not be electrically connected to the building or structure.

2.25 ***Material Handling and Storage***

2.25.1 Tools or materials should not be dropped or thrown from one level to the other. A rope or other hoisting device should be used to transport these materials.
2.25.2 Supplier's employees should be trained according to regulatory standards and/ or Cummins requirements in the operation of forklifts, powered hand jacks, and rolling mobile stock equipment.
2.25.3 The Supplier's use of Cummins owned or leased equipment is prohibited unless specifically authorized in writing and reviewed by the legal department.
2.25.4 All construction materials should be stored in designated areas.
2.25.5 Materials should be stored in a manner that prevents sliding, falling or collapse of the material and secured.

2.25.6 The Supplier should ensure personnel are trained, licensed and/or certified to operate equipment and to perform the work assigned.

2.26 *Motor Vehicle and Heavy Mobile Equipment*

2.26.1 Heavy equipment such as forklifts, bulldozer, backhoes, dump trucks, and cranes should only be operated by individuals who are trained and qualified to operate heavy industrial equipment.
2.26.2 It is the responsibility of the Supplier to train and maintain employee records as outlined in this manual. These records should be available upon request.
2.26.3 Back up signals should be in place for all heavy equipment.
2.26.4 The Supplier is responsible to ensure that rollover protection is provided.
2.26.5 All heavy equipment should have a service brake system, an emergency brake system and a parking brake system.
2.26.6 The Supplier should ensure heavy equipment operators are trained and have demonstrated abilities prior to assignment. Training documents should be available for inspection upon request.
2.26.7 Use of Cummins equipment is prohibited unless specifically authorized in writing and reviewed with the legal department.
2.26.8 Construction vehicles and heavy equipment brought on site must be inspected, tested, and certified to be in safe operating condition.
2.26.9 Use wheel chocks during unloading and anytime the vehicle could possibly roll.
2.26.10 Do not use a motor vehicle or equipment having an obstructed view to the rear, unless the vehicle has a backup alarm audible above the surrounding noise level or a guide.
2.26.11 Heavy machinery, equipment, or their parts which are suspended or held aloft by slings, hoists, or jacks must be substantially blocked or cribbed to prevent falling or shifting**.** Do not work under or between suspended loads**.** Bulldozer and scraper blades, end-loader buckets, dump bodies, hydraulic lifts, and similar equipment must be either fully lowered or blocked when being repaired or when not in use**.** Controls must be in neutral position, with motors stopped and brakes set, unless the work being performed requires otherwise.
2.26.12 Hauling vehicles for which the payload is loaded by cranes, power shovels, loaders, or similar equipment must have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials.
2.26.13 Check vehicles at the beginning of each shift to ensure that equipment and accessories are in safe operating condition, and free of damage that could cause failure while in use.
2.26.14 Do not ride with arms or legs outside of the truck body, in a standing position, on running boards, seated on side fenders, tailgates, truck cabs, cab shields, rear of truck, or on the load.
2.26.15 Do not drive above the posted speed**.** Weather, traffic, width and characteristics of the road, type of motor vehicle, and existing conditions may reduce the speed limit.
2.26.16 Conspicuously post rated load capacities, operating speeds, and special hazard warnings on equipment**.** Instructions or warnings must be visible to the operator while at the control station.
2.26.17 Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded if parts are exposed or create a hazard.
2.26.18 Operators of vehicles or equipment are to use seat belts or other restraint devices at all times during operation of vehicles or equipment.
2.26.19 When loading or unloading a motor vehicle at a dock, set the emergency brake and place wheel chocks under both sides of the rear wheels, and engage dock-locks if available, to prevent the vehicle from rolling.

2.27 *Personnel Lifts*

2.27.1 Personnel lifts are to be operated only by trained and qualified supplier personnel.
2.27.2 Personal fall, head, foot, and eye protection should be worn at all times while working in an articulating boom lift.

2.27.3 Deadman safety devices should not be altered.
2.27.4 Hi-jacks should not be used without outriggers fully extended and the safety chain in place across the entrance.
2.27.5 When using vertical lifts such as hi-jacks or scissors lifts, JLG's, etc, the use of fall protection equipment is required.
2.27.6 Manufacturer recommendations should be followed while operating personnel lifts.
2.27.7 Supplier's use of Cummins owned or Cummins leased equipment is prohibited unless specifically authorized in writing and reviewed with the legal department.

2.28 ***Personal Protective Equipment (PPE)***

2.28.1 The Supplier should furnish and require craftpersons to wear PPE as required. It is also the responsibility of the Supplier to train all craftpersons using PPE according to all relevant standards. Training documentation should be available upon request.
2.28.2 Each of the basic hazards should be reviewed and a determination made as to the type, level of risk, and seriousness of potential injury. Consideration should be given to the possibility of exposure to several hazards at once. The general procedure for determining appropriate protective equipment is to:

- identify the potential hazards and the type of protective equipment that is available, and what protection it provides (i.e., splash protection, impact protection, etc.);
- compare the capabilities of various types of PPE with the hazards associated with the environment (e.g., impact velocities, masses, projectile shape, and radiation intensities);
- select the PPE which provides a level of protection greater than the minimum required to protect workers from the hazards;
- select PPE that will fit each person properly and provides protection from the hazard.

2.28.3 PPE Selection

2.28.3 a) EYE AND FACE PROTECTION: Persons must use appropriate eye or face protection when exposed to eye or face hazards from flying particles, molten metal, liquid chemicals, acids, or caustic liquids, chemical gases or vapors, or potentially injurious light radiation. Requirements for side protection, prescription lenses, filter lenses, and identification of the manufacturer are outlined in the ANSI standard or as per local requirements, if they are specific. Protective eye and face devices must comply with ANSI Z87.1or be demonstrated to be equally effective. It is mandatory to wear safety glasses with side-shields throughout the Cummins facility.

2.28.3 b) RESPIRATORY PROTECTION: Appropriate respirators are required to be worn in areas where persons are exposed to inhalation hazards (also refer MSDS) in excess of the established exposure limits. Inhalation hazards may consist of exposure to gases, vapors, dusts, mists, fumes or fibers. All respirator usage should be in accordance with the ANSI Z88.2 (Standard Practice for Respiratory Protection) or be equally effective. Occupations/activities that may be exposed to these types of hazards include abrasive blasting, spray painting, welding, demolition, chemical related activities, asbestos maintenance etc.…

2.28.3 c) HEAD PROTECTION: Persons must wear protective helmets when working in areas where there is a potential for injury to the head from falling objects. Protective helmets designed to reduce electrical shock hazards should be worn by each such affected employee when near exposed electrical conductors which could contact the head. Protective helmets purchased should comply with ANSI Z89.1or be equally effective. Occupations/activities that may be exposed to these types of hazards include crane operations, overhead work areas, all construction related work, low clearance work areas etc…

2.28.3 d) FOOT PROTECTION: Persons must wear protective footwear when working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, or where employees' feet are exposed to electrical hazards. Protective footwear must comply with ANSI Z41 or be equally effective.

2.28.3 e) HAND AND SKIN PROTECTION: Appropriate hand protection are required when persons' hands are exposed to hazards such as those from skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns and harmful temperature extremes. The selection of the appropriate hand protection should be based on an evaluation of the performance characteristics of the hand protection relative to the tasks to be performed, conditions present, duration of use and the hazards and potential hazards identified. Occupations/activities that may be exposed to these types of hazards include sheet metal fabrication, painters, welders, electricians, parts cleaning, material handling etc…

ANSI/ISEA 105-2005, American National Standard for Hand Protection Selection Criteria, provides guidance for selecting the correct gloves.

Refer NFPA 70E-2009, Standard for electrical safety in the workplace for determining the right PPEs based on the Arc Flash analysis approach for any job required to be carried out on live electrical installations or on equipment that can expose person(s) to live electrical parts.

Employees should wear fully buttoned coats or body aprons, hairnets, and beard covers in designated areas (as specified by the sites). Certain areas where hazardous chemicals are stored/ handled may require a higher level of protection in the form of coveralls or air suits. Employees should not be allowed to enter these areas without appropriate clearance, training, and protection. Shirts with sleeves must be worn at all times.

2.28.3 f) HEARING PROTECTION: Persons exposed to excessive noise must use appropriate PPE including ear plugs, muffs, or both when engineering or administrative controls are not feasible to reduce exposure. Where the individual's noise exposure equals or exceeds an 8-hour time-weighted average of 85 decibels on the A scale (dBA), hearing protection should be exercised mandatorily.

Ear plugs are inserted to block the ear canal. They may be premolded (preformed) or moldable (foam ear plugs). Ear plugs are either available as disposable products or reusable plugs.
Semi-insert ear plugs which consist of two ear plugs held over the ends of the ear canal by a rigid headband.
Ear muffs consist of sound-attenuating material and soft ear cushions that fit around the ear and hard outer cups. They are held together by a head band.
Use subject fit data based on ANSI S12.6-1997 [ANSI 1997] to estimate hearing protector noise attenuation.

Comparison of Hearing Protection	
Ear Plugs	Ear Muffs
Advantages: • small and easily carried • convenient to use with other personal protection equipment (can be worn with ear muffs) • more comfortable for long-term wear in hot, humid work areas • convenient for use in confined work areas	Advantages: • less attenuation variability among users • designed so that one size fits most head sizes • easily seen at a distance to assist in the monitoring of their use • not easily misplaced or lost • may be worn with minor ear infections
Disadvantages: • requires more time to fit • more difficult to insert and remove • require good hygiene practices	Disadvantages: • less portable and heavier • more inconvenient for use with other personal protective equipment.

• may irritate the ear canal • easily misplaced • more difficult to see and monitor usage	• more uncomfortable in hot, humid work area • more inconvenient for use in confined work areas • may interfere with the wearing of safety or prescription glasses: wearing glasses results in breaking the seal between the ear muff and the skin and results in decreased hearing protection.

2.28.3 g) FALL PROTECTION: Cummins mandates use of full body harness confirming to ANSI Z359.1, ANSI A10.14 requirements, or be equally effective, in all the operations/ activities where fall protection is required. All fall protection equipment/ attachments are to be thoroughly inspected prior to every use.

Inspection and Maintenance tips -
To maintain service life and high performance, you should inspect harnesses frequently. Visual inspection before each use is required. Regular inspection by a competent person for wear, damage, or corrosion should be a part of the safety program. Inspect the equipment daily and replace it if any defective conditions exist.

1. Webbing - Grasp the webbing with both hands 15-20 cms/ 6 - 8 inches apart. Bend the webbing in an inverted "U" as shown. The resulting surface tension makes damaged fibers or cuts easier to see. Follow this procedure the entire length of the webbing, inspecting both sides of each strap. Watch for frayed edges, broken fibers, pulled stitches, cuts, burns, and chemical damage.
2. D-Rings/Back Pads - Check D-rings for distortion, cracks, breaks, and rough or sharp edges. The D-ring should pivot freely. D-ring back pads should also be inspected for damage.
3. Attaching Buckles - Attachments of buckles and D-rings should be given special attention. Note any unusual wear, frayed or cut fibers, or distortion of the buckles or D-rings.
4. The Tongue/Grommets - The tongue receives heavy wear from repeated buckling and unbuckling. Inspect for loose, distorted, or broken grommets. Webbing should not have additional punched holes.
5. Tongue Buckle - Buckle tongues should be free of distortion in shape and motion. They should overlap the buckle frame and move freely back and forth in their socket. Roller should turn freely on frame. Check for distortion or sharp edges.
6. Friction and Mating Buckles - Inspect the buckle for distortion. The outer bars and center bars must be straight. Pay special attention to corners and attachment points of the center bar.
7. Visual Indications of Damage to Webbing and Rope –

a) Heat - In excessive heat, becomes brittle and has a shriveled brownish appearance. The fibers will break when flexed. Should not be used above 82 degrees Celsius/ 180 degrees Fahrenheit.

b) Chemical - Change in color usually appearing as a brownish smear or smudge. Transverse cracks when bent over a mandrel. Loss of elasticity.

c) Molten metal or flame. Webbing strands fuse together. Hard shiny spots. Hard and brittle feel.

d) Paint and solvents. Paint that penetrates and dries restricts movement of the fibers. Drying agents and solvents in some paints cause chemical damage.

Fall arrestors: A fall arrest system is an assembly of components and subsystems, including the necessary connectors, used to arrest the user in a fall from a working height and suspend the user until rescue can be effected. A fall arrest system must always include a full body harness and connecting means between the harness and an anchorage or anchorage connector. Such connecting means may consist of a lanyard,

energy (shock) absorber, fall arrester (rope grab), lifeline, self-retracting lanyard or qualified combinations of these.

Suspension systems: The suspension configuration permits workers to sit and work safely while elevated. Unlike the fall arrest configuration, the suspension configuration distributes the worker's weight on areas of the body capable of bearing that weight for extended periods. A suspension system is designed to raise or lower and support a worker at an elevated work station. The connecting points of the system, such as shoulder or seat-strap D-rings, are NOT designed to properly distribute the impact forces that result in arresting a free fall. A suspension system alone cannot be relied upon to provide proper fall arrest protection; the worker must be properly attached to an independent fall arrest system if a free fall is a possibility.

Restraint systems: A restraint system is an assembly of components and subsystems, including the necessary connectors, used to: (a) stabilize and partially support the user at an elevated work location and allow free use of both hands. Certain restraint systems are referred to as a work positioning system or, simply, a positioning system that restrict the user's motion so as to prevent reaching a location where a fall hazard exists. A positioning system includes the user's harness and connecting means between the harness and an anchorage or anchorage connector. Such connecting means usually consists of a positioning lanyard which is connected to both hip D-rings of the harness and wraps around or connects to an anchorage or anchorage connector. A positioning system must always be backed up by a fall arrest system.

2.28.3 h) WELDING, CUTTING and BURNING: Welders must wear a welding helmet with welding hood (combination hard hat) when welding. Soft caps are prohibited. Face shields or goggles that fit on hard hats must be worn along with approved safety glasses during grinding operations. For overhead work, employees should wear fire-resistant hard hats and fire-retardant shoulder covers.
Keep clothing free of oil, grease, and flammable material. Button collars and cuffs, and turn pant cuffs inside pants. Pockets must be covered with flaps and buttoned, or removed from the front of vests, shirts, and aprons.
Welders and their helpers must wear gloves and proper infrared/ultraviolet eye protection in addition to safety glasses. Workers engaged in oxy-acetylene welding or cutting must wear a welding helmet or safety goggles that are equipped with suitable filter lenses. Workers who are engaged in electric arc welding must use shields or helmets that are equipped with suitable filter lenses that fit on a hard hat.
Wear approved safety glasses or goggles under a combination hard hat or welding hood. Employees should not be allowed to perform welding, burning, or open flame work on staging suspended by fiber or synthetic rope.

2.28.3 i) ADDITIONAL PPEs: The Supplier should be directed to furnish any additional equipment required by unusual circumstances (such as high temperature work or handling corrosive liquids) and not specifically covered in this section. Use of such PPES must be reviewed with the site safety department.

2.29 ***Radios, Mobiles and other Electrical Communication Device***

2.29.1 Personal communication devices including radios, pagers, cell phones, etc. are allowed on site; however, they may not be used during work activities.
2.29.2 Electrical equipment, tooling or other device used in hazardous environments should be explosion proof and rated for the hazard classification.

2.30 ***Safe Lift Program***

2.30.1 Suppliers should have a program that identifies which occupations and activities have routinely occurring lifting hazards.
2.30.2 At a minimum, suppliers should train their employees on the following topics: recognizing lifting hazards, proper lifting techniques, back safety, and ergonomics.

2.31 ***Security Inspections***

2.31.1 Cummins Plant Security or Cummins agency with authority should have the right to inspect any personal tool box, gang box, purse, bags or vehicle while on Cummins Property.
2.31.2 The Suppliers Access Badge must be displayed by all their employees and visible while on Cummins site.
2.31.3 The Suppliers have to make available and provide access to Security for any requested inspection.

2.32 ***Static Grounding***

2.32.1 Supplier's employees working in areas deemed as a hazardous or flammable area should wear body static electricity elimination straps.
2.23.2 Process areas that require static grounding should be identified by signs.
2.23.3 All employees who are to be static grounded should be tested at the start of each shift and a log of this test should be maintained on Supplier's file for a period of 30 days.
2.23.4 All flammable liquids, flammable liquid transfer equipment and associated equipment should be grounded, and constructed of non spark producing materials and the equipment should be designed for use in hazard areas.

2.33 ***Temporary Buildings***

2.33.1 Temporary buildings should be illuminated, and should be clean and neat.
2.33.2 Entry and exit stairs should be provided for temporary buildings as outlined by applicable code and standards.
2.33.3 Fire Extinguishers should be provided for temporary buildings.

2.34 ***Tools (Powered and Non-powered)***

2.34.1 Hand tools should be inspected before use. If deficiencies are found, the tool should be tagged (out of service) and removed from the site for either repair or disposal. Some examples include:

- Cold chisels and wedges with mushroomed heads,
- Shovels with broken or splintered handles
- Electrical cords without proper insulation or missing ground pin

2.34.2 Tool repairs should be performed by the manufacture or a qualified and authorized person. Repairs should meet regulatory agency requirement.
2.34.3 All guards and safety devices should be permanently attached and should remain functional during operation.
2.34.3 Stock and materials should be secured to the working surface before using powered equipment such as saws and drills. Kickback safety guarding and other safety barrier, guards and deadman switches should be provided.
2.34.4 In areas where fire and explosion hazards are of concern due to flammable or combustible materials, only explosion proof-hazard area classification electrical equipment and non spark producing equipment is allowed.
2.34.5 Power, air, and hand tools must be operated in accordance with the manufacturer's recommendations.
2.34.6 Keep hand tools in good condition, inspected, cleaned, sharpened, oiled, and not abused**.** Replace worn tools immediately.
2.34.7 Inspect tools for damage and worn parts before use**.** Remove damaged or frayed cords from service**.** Do not hoist or lower tools by the cord or hose; use handlines**.**
2.34.8 A qualified person must inspect power tools before use and at least once per month.
2.34.9 Do not force tools beyond their capacity by using "cheater bars" or other shortcuts.
2.34.10 Do not use power tools if safety equipment such as shields, tool rests, hoods, and guards have been removed or rendered inoperative.
2.34.11 Supplier's employees must wear the required personal protective equipment when using tools under conditions that expose them to flying objects or harmful dust.

2.34.12 Ground electrically powered tools**.** Protect outlets used for powered tools by ground-fault-circuit interruption devices throughout each phase of the work.
2.34.13 Do not use gasoline-powered tools in unventilated areas, enclosed spaces, or outside of enclosed spaces**.** Dispense gasoline and other flammable liquids only from approved safety cans or equivalent.
2.34.14 Use portable grinders with hood-type guards with side enclosures that cover the spindle and at least 50% of the wheel. Inspect wheels regularly for signs of fracture.
2.34.15 Equip bench grinders with deflector shields and side-cover guards**.** Tool rests must have a maximum clearance of 1/8 inch from the wheel.
2.34.16 Secure couplings to hoses supplying pneumatic tools to prevent accidental disconnection.
2.34.17 Protect air-supply lines, inspect lines regularly, and maintain lines in good condition. Provide excess flow valves on supplying hoses exceeding 1/2 inch in diameter.
2.34.18 Reduce the operating pressure of compressed air used for cleaning purposes to 30 psi or less (except for cleaning of forms, etc.)**.** Avoid operating pressure in excess of 30 psi.
2.34.19 Post signs throughout the area warning of the use of powder-actuated tools.
2.34.20 Loads, studs, and nails used in powder-actuated tools must be specifically approved by the manufacturer for use in that tool.
2.34.21 Do not use loads, studs, and nails in powder-actuated tools for any purpose other than recommended by the manufacturer.
2.34.22 Do not use powder-actuated tools when adjacent areas are occupied by personnel.
2.34.23 Powder-actuated tools must be designed so that discharging the powering load can only be accomplished when the barrel of the tool is firmly depressed against the work surface.
2.34.24 Powder-actuated tools must be piston-driven and designed so that the pistons always remain captive within the tool.
2.34.25 Supplier's employees must not operate powder-actuated tools until they have satisfactorily completed the manufacturer's sponsored training for the tool and have evidence of this training readily available.
2.34.26 Do not use powder-actuated tools in areas where hazardous accumulations of ignitable dust, gases, or liquids could be present or collect until the area has been proven free from such hazards with appropriate instrumentation.
2.34.27 Safety Goggles, face shields, or substantial eye protection must be worn by each person within 7.6 mts/ 25 ft of the point of discharge.
2.34.28 Personnel not directly involved with the operation of powder-actuated tools must stay clear unless granted specific written permission by the supplier, and applicable provisions of the procedure regarding personal protective equipment have been met.
2.24.29 Do not leave powder-actuated tools or loads unattended at any time**.** Powder-actuated tools, loads, studs, and nails must be stored in a locked box or otherwise secured when not in use**.** Do not load the tool until ready for use.
2.24.30 Powder-actuated tools must be regularly inspected and maintained**.** Maintenance work must be performed by competent technicians as directed by the manufacturer's literature**.** Parts used in maintenance or repair of powder-actuated tools must be exact replacement parts.

2.35 ***Working at Height***

2.35.1 All working surfaces at or above 4 feet (U.S.) or 1.2 metric meters OR any work being undertaken at an elevated position over a point of operation (i.e conducting activities above hazardous operations for eg: mixing tanks, crush points, high voltage, etc... where protection is required regardless of height) must be evaluated for fall hazards using the hierarchy of controls to determine the best method for guarding (i.e., risk assessment, fall hazard assessment, etc.). Fall hazards include; unprotected floor openings/edges, shafts, skylights, stairwells, and roof openings/edges, aerial equipment, storage platforms, mezzanines, etc.

a) All working surfaces identified meeting the criteria above **MUST** be guarded by some physical means to protect employees from an incidental fall. Physical means for guarding include: standard guardrailing, fall restraint, personal fall arrest systems, netting, floor opening cover, wall opening cover, bars, etc.

b) Any work conducted off a ladder, stepstool or unguarded platform at or above 4 feet (U.S.) or 1.2 meters (Metric) OR over/near a point of operation requires the use of fall protection. OR, the use of an aerial lift, platform, etc. that has standard guardrailing to perform the task;

c) Any persons using fall protection PPE or ladders must be trained at the authorized level.

2.35.2 Standard guarding is required for all scaffolds above 3 mts/ 10 ft. Fall protection for scaffolds 2-3 mts/ 6-10 ft in height may consist of a full body harness with lanyard or standard guardrail as appropriate.

2.35.3 Prior to performing overhead work, the Supplier should submit a written fall protection safety plan. In the event that the plan is deficient, it is the responsibility of the Supplier to correct the identified deficiency. The responsibility for the fall protection plan is solely that of the Supplier.

2.35.4 Personal fall, eye, foot, and head protection should be worn at all times while working in an articulating boom lift, or a vertical lift such as high jack or scissor lifts.

2.35.5 Platform ladders less than 1.2 mts/ 4 ft may be used without fall protection. Work above 1.2 mts/ 4 ft should be performed using a work platform, aerial lift or equipment designed for such heights.

2.35.6 Full body harnesses with shock absorbing lanyard are required for work in areas above 1.2 mts/ 4 ft.

2.35.7 Craftsperson should contact their supervisor to determine proper anchorage points for fall protection. Anchor points should be able to support al least 2268 kgs/ 5000 lbs of force per person.

2.35.8 Fastening a lanyard or fall protection equipment to itself or wrapped over any structure is prohibited.

2.35.9 The supplier must provide their own access equipment, unless agreed otherwise.

2.35.10 Ladders, scaffolds and hoists must be used, inspected and maintained in accordance with the manufacturer's specifications.

2.35.11 Scaffolds must be erected and dismantled by qualified personnel and conform to regulatory requirements.

2.35.12 Mobile hoists must only be operated by personnel trained and licensed in their use.

2.35.13 Guard-rails, or safety harnesses with lifelines, must be used for all work where personnel or materials could fall more than 1.2 mts/ 4 ft.

2.35.14 Always ensure that the fall protection devices are appropriately secured (either using a lanyard arrangement or multiple hooking arrangements) while the employees are climbing up or down on a ladder/ scaffold/ structural erection etc…

2.35 i) LADDERS –

a) Manufactured ladders, ladder maintenance and use must comply with OSHA/ local regulatory standards/ ANSI, manufacturer's specifications, and job procedures.

b) Metal ladders and wooden ladders are prohibited and requires special permission if required to be used.

c) Do not use ladders with broken or missing rungs, broken or split side-rails, or damaged components**.** Damaged ladders must be immediately removed from the work area or destroyed.

d) Equip portable ladders with non-skid safety feet and place on a stable base**.** Keep the access areas at the top and bottom of ladders clear**.** Stepladders must be fully opened when in use. Safety latches on extension ladders must be fully engaged.

e) Always face the ladder when climbing or descending**.** When working, face the ladder with both feet securely on the rungs**.** Never stand on the top step or sit on the top of the ladder, straddle the ladder, fold up, lean stepladders, or work two people from the same ladder.

f) Post warning signs when doing overhead work in traffic areas.

h) Protection from falls is a key consideration when working from ladders above 1.2 mts/ 4 ft.

i) Keep ladders free of lines, ropes, hoses, wires, cables, oil, grease, and debris**.** Do not leave objects on ladders.

j) Do not use single portable ladders over 9 mts/ 30 ft in length**.** Use separate ladders with intermediate landing platforms to reach heights above 9 mts/ 30 ft.

k) Extend side rails 91 cms/ 36 inches above the landing**.** When this is not practical, install a grab rail. Ladders in use must be tied, blocked, or otherwise secured.
l) Ladders must be inspected before use and at least once per month.
m) Suppliers must ensure that employees maintain the required understanding and knowledge of ladder safety.

2.35 ii) SCAFFOLDS

a) Scaffolds must be designed, built, inspected, and tagged by trained, competent persons in accordance with the latest OSHA requirements**.** Carefully plan each application to ensure that scaffolds are used where required and that scaffolds conform to the applicable scaffold erection requirements.
b) Lean-to scaffolds and make-shift platforms are prohibited.
c) Do not use scaffolds for storing material except material being used while on the scaffold**.** Place material over cross members**.** Do not allow tools, material, or debris to accumulate on scaffolds.
d) Adequately design scaffolds to carry, without failure, four times the maximum intended load in addition to the weight of the scaffold**.** Never overload a scaffold.
e) Immediately replace weakened or damaged scaffolds.
f) Scaffold or staging more than 1.2 mts/ 4 ft above the ground or floor, suspended from an overhead support, or erected with stationary supports, must have standard guardrails and toe boards properly attached.
g) Guardrails must be two inches by four inches, approximately 1.1 mts/ 42 inches high, with a midrail**.** Do not use diagonal braces as guardrails**.** Supports must be at intervals not to exceed eight feet.
h) Toe boards must be a minimum of four inches high**.** Cleat or secure planking to prevent displacement**.** Platforms must be the complete width of the scaffold being erected**.** Secure the scaffold horizontally and vertically at intervals specified in the applicable regulations.
i) Scaffolds with any dimension of less than 1.2 mts/ 45 inches must be equipped with outriggers and standard guard rails when the working platform is at a height of four feet or higher.
j) Equip mobile scaffolds with outriggers and lock casters**.** Guard mobile scaffolds with standard railing, regardless of height**.** Mobile scaffolds must not be constructed or used where there is a change of elevation in the floor level.
k) Moving a mobile scaffold with personnel on it must not be permitted.
l) A competent person must inspect scaffolds before work begins.
m) Scaffold planks should not extend over their end supports less than 15.2 cms/ 6 inches or no more than 30.5 cms/ 12 inches.
