

<b>Contractor Safety Handbook</b>		<b>EP 5.4</b>
<b>Final</b>	<b>DATE</b>	<b>PAGE 1 of 31</b>
<b>Todd Chimel</b>	<b>5/18/2019</b>	<b>REVISION # 0</b>

**SMC Corporation of America**

**Noblesville, Indiana**

## **CONTRACTOR SAFETY HANDBOOK**



*Outside contractors are responsible for complying with the requirements in this handbook while performing work for SMC-Noblesville. Although a number of requirements in this handbook may not directly apply to the job you will be doing, make sure that the information is understood and complied with by your supervisors, employees, and sub-contractors. If you have questions, feel free to call the Environmental, Health, and Safety Manager in the EHS Office at (317) 688-0375.*

**PRINTED COPIES ARE UNCONTROLLED**

**ACKNOWLEDGEMENT**

**BY SIGNING THIS PAGE BELOW, I ACKNOWLEDGE THAT I HAVE RECEIVED THIS CONTRACTOR SAFETY MANUAL AND WILL REVIEW ALL APPLICABLE SECTIONS REGARDING SMC SAFETY RULES. I ALSO ACKNOWLEDGE THAT I WILL CLARIFY ANY QUESTIONS WITH MY SMC CONTACT PERSON OR WITH THE EHS MANAGER PRIOR TO BEGINNING ANY WORK.**

**I ALSO AGREE TO DISCUSS MY COMPANY’S APPLICABLE SAFETY PROGRAMS, SUCH AS FALL PROTECTION AND/OR LOCK OUT/TAG OUT, WITH SMC EHS SO ANY DEFICIENCIES OR CONFLICTS CAN BE RESOLVED PRIOR TO BEGINNING WORK.**

\_\_\_\_\_  
**PRINTED NAME**

\_\_\_\_\_  
**SIGNATURE**

\_\_\_\_\_  
**DATE SIGNED**

\_\_\_\_\_  
**COMPANY**

\_\_\_\_\_  
**WITNESS/COMPANY REPRESENTATIVE**

<b>Contractor Handbook</b>		<b>EP 5.4</b>
	<b>Revision # 0</b>	<b>Page 3 of 31</b>

**Table of Contents**

[SMC’s EHS Commitment](#) .....5

[Contact Numbers and Resources](#) .....6

[Regulatory Requirements](#) .....6

[Inspections](#).....6

[Disciplinary Action Policy](#) .....6

[Conduct & Controlled Substances](#) .....7

[Traffic and Parking](#).....7

[Authority to Proceed](#).....7

[Occupied Areas](#) .....7

[Equipment](#).....8

[How to Report Incidents and Emergencies](#).....8

[How to Report Safety Problems or Concerns](#).....9

[EHS Requirements for Subcontracts Overview](#).....9

[Personal Protective Equipment \(PPE\)](#) .....10

[Machine Guarding](#) .....12

[Hand, Fixed, Rotating And Portable Tools And Equipment](#) .....13

[Percussion Cartridge Tools](#).....13

[Hazardous Material Handling](#).....14

[Hazard Communication](#).....14

[Chemical Storage](#).....15

[Hazardous Materials](#).....16

[Hazardous Wastes](#).....18

[Lockout/Tagout](#) .....18

[Safety Signs, Warning Tape and Labels](#) .....19

[General Housekeeping](#).....18

[Lead Awareness](#).....18

[Welding, Cutting and other Hot Work](#).....18

[Compressed Air/Compressed Air Cylinders](#).....20

[Refrigeration Management](#).....20

[Overhead Work/Fall Protection](#).....20

[Ladders](#).....27

[Scaffolding](#).....28

[Aerial Lifts](#).....29

[Electrical](#).....24

[Powered Industrial Trucks](#).....24

[Mobile Cranes](#).....28

[Hoists](#).....28

[Confined Spaces](#).....36

[Explosives](#).....37

[Excavations](#).....37

[Energy Conservation](#).....46

## 1.0 SMC's EHS Commitment



## 2019 Commitment to Environmental, Health, and Safety

SMC Corporation of America is committed to protecting the health and well-being of our most valuable resource - our employees, as well as our precious environment. All of our environmental, health and safety programs are designed to provide each SMC employee with a safe and healthy workplace and our communities with a healthy environment.

It is our policy to operate in a safe, responsible manner, which respects the environment and the health of our employees and the communities in which we operate. To fulfill our commitment, we will strive to eliminate any existing or foreseeable hazards, which may result in fire, security loss, damage to property, damage to our environment and personal injury or illness.

We will work to continually improve all aspects of our environmental, health and safety programs. We will work with industry experts and governmental agencies to develop regulations, and standards to enhance our commitment.


We will provide environmental, health and safety training to all employees. We will strive to anticipate environmental, health and safety issues and ensure they are considered when decisions are made regarding the design, selection, and maintenance of our equipment, processes, and products.

Each employee is responsible for working in a safe manner that respects the health and safety of the individual and the environment. We encourage all employees to be actively involved in our environmental, health and safety culture.

All employees are required to perform their jobs in accordance with established practices and operating philosophy. Each of us is accountable to follow safe work practices, including the use of personal protective equipment as designated. Compliance with established safe work practices is a condition of employment, and unsafe conduct is cause for discipline, up to and including termination of employment.

Our environmental health and safety program is vigorously endorsed to prevent the occurrence of injuries/illnesses and damage to the environment so as to prevent the personal suffering and/or economic loss associated with accidents. The personal safety of SMC employees and our environment will not be compromised under any circumstances, including profit or production.

  
Kelley Stacy  
Senior Vice-President

  
Chad Bosler  
Director, Production

  
Jennifer Fleming  
Director, Logistics

2.0 Roles and Responsibilities

- 2.1 All employees, contractors, visitors, and temporary workers are expected to follow all applicable safety, health, and environmental regulations during their daily routines. Following the rules outlined in this handbook will help you maintain standards of quality and safety while you work at SMC Corporation of America - Noblesville facilities. While the rules address the most common questions asked by contractors, they are not all-inclusive of all safety, health, and environmental requirements you must follow while working at SMC, and are not intended to preclude more stringent or specific rules that you or your company may already follow.
- 2.2 Contractors are responsible for complying with all regulations, ensuring that their employees have appropriate safety training and holding safety meetings a minimum of every 10 days with documentation that includes participating employees' names. All employees shall be properly trained and adequately certified for their specific line of work. Contractors must ensure that any subcontractor hired to do work also meets these same safety and health requirements. Contractors must ensure that all contractor employees, subcontractors, and subcontractor employees understand the information in this handbook.
- 2.3 The SMC Contract Manager is responsible for the overall project and contractor coordination. This includes making the contractor aware of any potential hazards such as chemicals.
- 2.4 The Environmental, Health, and Safety (EHS) Office is responsible for safety and health compliance programs at SMC. EHS personnel inspect construction projects and will stop any work deemed unsafe. Work cannot resume unless the EHS personnel give the Contract Manager permission.

3.0 Contact Numbers and Resources

- 3.1 Security x0 (Outside Phone 317-688-0118)
- 3.2 First Aid x46061
- 3.3 EHS Manager x11375 (Outside Phone 317-688-0375)

4.0 Regulatory Requirements

- 4.1 All contractors working on SMC property must follow all applicable state and federal regulatory requirements. Contractors, not SMC, are responsible for reporting any incidents they are involved in, as required by Occupational Safety and Health Administration (OSHA). Any regulatory citation or issues that occur while working on site must be reported to SMC site EHS immediately.
- 4.2 All regulatory training must be performed by the contractor. SMC will not provide regulatory training to contractors while working on site.

5.0 Inspections

- 5.1 The SMC EHS Office and your Contract Manager may inspect your job site to evaluate your compliance with these regulations, and to help ensure the safety and health of your employees and ours. In situations presenting imminent jeopardy to the safety or health of personnel, or where damage to property or the environment appears highly probable, the EHS Office has the authority to order immediate cessation of your work.

6.0 Disciplinary Action Policy

- 6.1 SMC will not tolerate unsafe conditions and/or non-compliance with safety and health regulations.
- 6.2 A contractor may receive up to three warnings, depending on the severity of the safety violation. In some circumstances, a contractor will receive only one formal warning. A

- contractor who commits another safety violation after a formal warning may not be allowed to bid on future projects.
- 6.3 Blatant or intentional disregard of safety requirements will result in cancellation of future work and/or immediate removal from the plant site.
- 6.4 SMC also reserves the right to deny access to specific employees. SMC will deny access or remove from the plant site any contractor who ignores an SMC request to stop a certain act(s) or work activity.
- 7.0 Conduct & Controlled Substances
- 7.1 The following activities and materials are prohibited on SMC property: horseplay, fighting, gambling, swearing, drinking of alcoholic beverages, using any tobacco products including vaping, weapons, narcotics, and explosive materials. Any contractor suspected of being under the influence of drugs or alcohol will be escorted off SMC property and not be permitted to work at SMC again.
- 8.0 Traffic and Parking
- 8.1 Vehicle traffic and parking at SMC is regulated and enforced. If your job requires special parking, check with your Contract Manager. Do not park in Restricted Areas or Reserved Parking areas unless you have obtained the permission of the Security Department.
- 8.2 Access for emergency response vehicles must be maintained at all times.
- 8.3 Personnel may not be transported in the rear of trucks unless they are seated. Secure all loads to prevent accidental spills.
- 8.4 Vehicles with a body or haulage capacity of 2-1/2 cubic yards or more shall be equipped with a backing-up alarm.
- 8.5 Obey posted 15 MPH speed limits. Due to the number of vehicles and pedestrian traffic, SMC strictly enforces the traffic and parking rules.
- 9.0 Authority to Proceed
- 9.1 Contractors must receive an "authority to proceed" before beginning any work which may be hazardous to SMC employees, contractors, property, products, and/or equipment. Examples of hazardous operations that require authority to proceed are:
- 9.1.1 Hot work (welding, brazing, torch-cutting) – Hot Work Permit from EHS is required.
- 9.1.2 Electrical and/or mechanical lockouts – Verbal authority from the Contract Manager to proceed required. Contractors must use their own locks and tags and provide a copy of their written Lockout/Tagout Program to EHS for review.
- 9.1.3 Live electrical work – Verbal authority from EHS and the Contract Manager to proceed required. Contractors must use their own Live Electrical Work Permit.
- 9.1.4 Confined space entries – Verbal authority from the Contract Manager to proceed required. Contractors must use their own confined space entry permits and sampling equipment and provide a copy of their written Confined Space Entry program to EHS for review.
- 9.1.5 Use of hazardous materials – Chemical approval required by EHS prior to bringing chemical on site.
- 9.1.6 Movement of heavy equipment (including crane lifts) - Verbal authority from the Contract Manager and EHS to proceed required.
- 9.1.7 Blasting and use of power actuated tools - Approval required by EHS prior to bringing explosive material on site.
- 9.1.8 Excavations, breaking, or drilling of the ground surface close to underground utilities - Verbal authority from the Contract Manager to proceed required.
- 10.0 Occupied Areas
- 10.1 Contractors will be held liable for the associated cost of any interruption of SMC work due to contractor negligence. Activities such as sanding, painting, stripping, noisy operations,

welding, cutting, sawing, or any other activity that may potentially harm SMC employees must be properly controlled, and any area where SMC employees may be exposed to such potentially hazardous activities must be secured.

- 10.2 Contractors will be held liable for hardware damage due to negligence. Because airborne materials may contaminate and/or damage very expensive and sensitive electronic hardware, work that has the potential to release substances such as dusts and mists must be properly controlled, and the work may need to be performed after hours.
- 10.3 Equipment
  - 10.3.1 Contractors shall not operate SMC-owned equipment such as forklifts, aerial lifts, fixed and portable tools, company cars, trucks, or any other motorized and/or power equipment.
  - 10.3.2 All equipment and tools used on the SMC site must be UL-listed if applicable and conform to state and federal regulatory guidelines. Internal combustion engines may not be used inside any SMC building without prior approval.
  - 10.3.3 Noisy Equipment
    - 10.3.3.1 Equipment that will emit enough noise to disturb SMC employees (85 decibels or more) shall be used in isolated areas, off-site, or on second shift. Such equipment includes grinders, saws, drills, power actuated tools, and jackhammers. Employees operating noisy equipment shall wear appropriate hearing protection.
  - 10.3.4 Powder Actuated Equipment
    - 10.3.4.1 Use of powder-actuated tools requires posting of 8 x 10 inch warning signs. The contractor must ensure that employees using powder-actuated tools are trained and currently certified.

## 11.0 How to Report Incidents and Emergencies

- 11.1 Incident Reporting
  - 11.1.1 You are required to report any and all incidents involving your employees and/or subcontractors to the responsible Contract Manager and EHS immediately. A written report delineating specifics of the incident must be prepared by the contractor and submitted to the EHS Office within 24 hours of each occurrence. The contractor must report any accidents that meet the reporting requirements to OSHA.
- 11.2 Injury Treatment
  - 11.2.1 All medical issues involving a contractor workforce shall be handled by the contracting company. However, should one of your employees sustain an



occupational injury or illness while working at SMC, we will provide courtesy first aid treatment Monday through Friday. Contact the First Aid Team at x46061.

- 11.3 Eyewash, Safety Showers
  - 11.3.1 Should chemical exposure occur, SPEED IS ESSENTIAL.
  - 11.3.2 ONLY WATER should be used to wash the chemical away.
  - 11.3.3 SAFETY SHOWER - If you are exposed to any hazardous material immediately proceed to the nearest safety shower and activate it. Get into the safety shower and begin removing your clothing. Allow the water to wash you down for at least 15 min.
  - 11.3.4 EYEWASH - If you have been splashed in the eyes, immediately activate the eyewash. Place your face into the eyewash and allow the water to douse your eyes for a minimum of 15 min.
- 12.0 How to Report Safety Problems or Concerns
  - 12.1 There are several methods to report safety concerns or issues. You may like to report a safety hazard, a suggestion for improving safety, or a personal safety issue. Your options for reporting safety issues or concerns are:
    - 12.1.1 Speak to your supervision/management. They in turn will communicate the issue to the Contract Manager.
    - 12.1.2 Call the EHS Contact number identified in this handbook
- 13.0 EHS Requirements for Subcontracts Overview
  - 13.1 Contractors (including vendors, suppliers, lower-tier subcontractors and other firms performing work on behalf of SMC) must conduct their activities so that equipment, supplies and work practices are safe for workers and can be understood by all workers and others present at the work location. Each SMC contractor shall provide a safe work area free from recognized hazards, shall give due care to prevent damage to property, materials and equipment, and restore to original condition any such damage, and shall comply with applicable federal, state, and local environmental, health and safety (EHS) laws, regulations and standards. Each SMC contractor shall appoint a qualified safety representative to act as a focal point for all matters relating to EHS performance.
  - 13.2 All items furnished and all work performed by a contractor shall comply with the most current applicable requirements of the U.S. Occupational Safety and Health Act of 1970 (OSHA) (or equivalent), U.S. Environmental Protection Agency (EPA) (or equivalent), federal, state and local EHS regulations and standards. Any failure to comply with the applicable laws, regulations, and standards may be grounds for termination.
  - 13.3 The general process flow is as follows:
    - 13.3.1 RFP Issued to contractors.
    - 13.3.2 Inform them that the following items are needed to be considered a potential bidder:
      - 13.3.2.1 Pre-qualification Information, before Pre-bid Walk-through of Job Site (or Pre-bid Meeting):
        - 13.3.2.1.1 Historical Information
        - 13.3.2.1.2 Corporate EHS Policy or Company-level EHS (or Safety) Plan
      - 13.3.2.2 Contractor Safety Checklist completed before start of work
      - 13.3.2.3 Site-specific EHS (or Safety) Plan after award, and before start of work
    - 13.3.3 Receipt of Pre-Qualification Information from potential bidders.
    - 13.3.4 Pre-qualification Review and Notifications
    - 13.3.5 Pre-bid Job Walk-through (or Pre-bid Meeting)
      - 13.3.5.1 Inform potential offerors of known site hazards
    - 13.3.6 Proposals Received and Reviewed
      - 13.3.6.1 Citation review (as appropriate)
    - 13.3.7 Contract Award
      - 13.3.7.1 Contractor Prequalification EHS Record & Information (Attachment 1), Contractor Summary Data for Safety Program (Attachment 2), Contractor's

Safe Work Certification (Attachment 3), and Additional Contractor Safety and Health Requirements (Attachment 5) will be appended to each subcontract, purchase order, or service agreement

- 13.3.8 Site-specific EHS (or Safety) Plan Received and Reviewed/Accepted by SCM and EHS
  - 13.3.9 Contractor Safety Checklist (SA-019 - EHS003) Submitted by subcontractor
  - 13.3.10 Contractor Safety Checklist (SA-019 - EHS003) verified by Site Lead and/or EHS
  - 13.3.11 Issuance of Notice to Proceed and incorporation of completed Contractor Safety Checklist (SA-019 - EHS003) into the subcontract, purchase order, or service agreement.
  - 13.3.12 The Contract Manager will complete and sign a Contractor Safety Program Start-up Checklist prior to work being performed by subcontractors. The subcontractor will also sign and date the completed Contractor Safety Program Start-up Checklist. Any item not checked must be completed before work may begin.
- 14.0 Personal Protective Equipment (PPE)
- 14.1 Personal protective equipment (PPE) such as hard hats, respiratory protection, hearing or eye protection must be worn if required for the job. Furnishing PPE is the responsibility of the contractor, not SMC. It is your responsibility to train your employees in the proper use of PPE, provide required medical surveillance, and enforce the wearing of PPE by your employees. The equipment you provide must be in good condition and carry the appropriate American National Standards Institute (ANSI) and/or National Institute of Safety and Health (NIOSH) approvals.
  - 14.2 Personal protective equipment is additional insurance against injury. Whatever type of personal protective equipment you use, it is your responsibility to maintain it. Proper maintenance includes keeping all of your equipment clean and in good condition, and not

sharing your equipment with others. See your supervisor to get the right equipment for the job.

#### 14.3 Protective Eyewear

- 14.3.1 Safety glasses must be worn when cutting, drilling, spraying, mixing hazardous material, or during any type of work that has the potential to cause eye injury.
- 14.3.2 All people (contractors, employees, customers, visitors) entering Factory, Central Warehouse, or Laboratory areas will wear ANSI approved safety eyewear.
- 14.3.3 ANSI approved eyewear must have side shields and carry the ANSI designation.

14.4 At the entrance to these areas a notification sign will be visible on the floor.



14.4.1 Note: Safety eyewear must comply with ANSI Z87.1.

#### 14.5 Safety Shoes

14.5.1 Safety shoes with ANSI/ASTM rated safety toes and impermeable soles must be worn when moving heavy objects, working in the presence of metal fragments, using heavy tools, etc.

14.5.2 Safety footwear must be worn in areas where:

- 14.5.2.1 Heavy materials are regularly moved, lifted or transported;
- 14.5.2.2 Where objects can pierce the sole of the shoe;
- 14.5.2.3 Where there may be electrical hazards at ground level; or
- 14.5.2.4 Hazardous liquids are handled regularly.

14.5.3 In **ALL** Factory, Warehouse, & Lab areas the following footwear is prohibited:

- 14.5.3.1 Open-toe shoes
- 14.5.3.2 Open-heel shoes
- 14.5.3.3 Canvas-top shoes
- 14.5.3.4 Sandals
- 14.5.3.5 Flip-flops
- 14.5.3.6 Elevated height shoes
- 14.5.3.7 Shoes with rigid soles.
- 14.5.3.8 \*Note: Safety footwear must meet the minimum compression and impact performance standards and testing requirements established by ANSI Z41-1991 or ASTM F2413-05

#### 14.6 Hearing Protection

14.6.1 Hearing protection shall be worn in work areas where noise levels exceed OSHA standards.



- 14.6.2 There are areas in the facility where the noise exposure is above the allowable 8-hour Time Weighted Average (TWA). These areas are labeled with signage indicating that hearing protection is required. However, if your work generates noise over 90dBA anywhere on the worksite, you should also wear hearing protection.
- 14.6.3 Hearing protection can be either earplugs or earmuffs, so long as the device provides the necessary noise reduction.
- 14.7 Respiratory Protection
  - 14.7.1 Respirators and dust masks must be worn when sanding, spraying, and/or applying a material, which requires such equipment. All respirators must be NIOSH approved and employees must be properly certified and included in an OSHA approved respiratory protection program facilitated by the contracting company.
- 14.8 Hand Protection
  - 14.8.1 Appropriate hand protection shall be used when welding, using hazardous materials, handling sharp objects, conducting electrical work, and/or other hazardous operations.
  - 14.8.2 The nature of the hazard(s) and the operation to be performed will determine your selection of gloves. The variety of potential hand injuries may make selecting the appropriate pair of gloves more difficult than choosing other protective equipment. Take care to choose gloves designed for the particular circumstances of your workplace.
  - 14.8.3 There are many types of gloves. Review your procedures or ask your company as to which glove is appropriate for the job you are to perform.
- 14.9 Head Protection
  - 14.9.1 An ANSI-approved hard hat shall be worn while working in areas where overhead demolition or construction is being conducted. Hard hats must also be worn when there is a low ceiling or the potential of workers bumping their heads.
- 14.10 Specialty PPE
  - 14.10.1 There are many jobs that require PPE beyond what is described above such as laser use, welding and cutting operations, electrical work, etc. These will be described later in this booklet under their specific topic.
- 15.0 Machine Guarding
  - 15.1 The hazards posed by an unguarded machine are obvious: in the worst of all cases, the machine can do to your body parts what it's doing to the materials it's designed to cut, shape, form, etc. Any piece of equipment that has exposed points of operation, ingoing nip

points, blades, or rotating parts, or that shoots off flying chips or sparks is a potential hazard to the people who work with or near it.

#### 16.0 Hand , Fixed , Rotating And Portable Tools And Equipment

- 16.1 Because damaged tools may result in injuries, all tools brought onto SMC sites must be in good working condition. Only use tools that are made for that specific job.
- 16.2 All tools must be collected at the end of each shift and locked in appropriate toolboxes or bins. SMC is not responsible for lost or stolen tools.
- 16.3 Tools requiring certification for use (i.e. powder-actuated tools) must be used in accordance with the manufacturer's certification, and their users properly certified.
- 16.4 Things to remember when using a tool or piece of equipment:
- 16.5 All equipment shall be inspected prior to use.
  - 16.5.1 Freestanding machinery shall be secured to the ground to prevent tipping or walking.
  - 16.5.2 Tools, materials or equipment SHALL NOT be dropped or thrown.
  - 16.5.3 All manufacturers' guards must remain in place.
  - 16.5.4 Remove and tag a tool if cracks or weaknesses are found on the tool's housing/handle/head.
  - 16.5.5 Tools shall be used properly.
  - 16.5.6 Use the appropriate tool for the job.
  - 16.5.7 As needed, tools must be properly grounded when in use.
  - 16.5.8 Check the cords on the tools to verify that they are in good condition.
  - 16.5.9 All tools must be double insulated or 3 pronged - rated for area they will be used in.
  - 16.5.10 When water is present in the area, a GFCI shall be used.
  - 16.5.11 All grinders shall have adequately sized disks w/o cracks.
  - 16.5.12 Ring tests shall be performed on grinding wheels at 45° intervals when first installing a new wheel on a grinder.
  - 16.5.13 When working around machinery with exposed moving parts, unrestrained long hair or beards, neckties, loose clothing, dangling sleeves, neck chains, rings, bracelets or other jewelry are not permitted.

#### 17.0 Percussion Cartridge Tools

- 17.1 Contractors intending to use percussion tools must first notify the site EHS Manager. These tools may not be used by other than competent persons. Extreme care must be

taken to ensure that the tools are correctly charged and given the respect due to a potentially dangerous device

## 18.0 Hazardous Material Handling

- 18.1 Contractors intending to use hazardous materials on the job must be trained to use the materials properly and safely prior to use.
- 18.2 Safety Data Sheets (SDSs) must be provided to the EHS Department prior to commencing work.
- 18.3 If your job requires that you handle hazardous materials:
  - 18.3.1 Learn and follow the proper handling and storage procedures.
  - 18.3.2 Utilize the proper Personal Protective Equipment (PPE) when handling chemicals.
  - 18.3.3 Verify all materials are labeled properly. Appropriate labels provide hazard and protective equipment information and are still within their usable date.
  - 18.3.4 Dispose of hazardous materials properly. Never dispose down the drain, sink, or in the trash.
  - 18.3.5 Know and follow record keeping and inventory requirements.
  - 18.3.6 Follow applicable packaging and transportation requirements when dealing with hazardous materials.

## 19.0 Hazard Communication

### 19.1 Right to Know

- 19.1.1 OSHA created the Hazard Communication Standard to help ensure your safety when working with hazardous chemicals.
- 19.1.2 You have a RIGHT TO KNOW about the hazardous chemicals you use on the job and how to work safely with those chemicals.
- 19.1.3 Contractors are responsible for ensuring that the EHS Department has current manufacturers' SDSs for all hazardous materials to be used by the contractor on SMC property. The EHS Department must approve use of these products prior to use. Contractors shall use only those hazardous materials specified in their contract.
- 19.1.4 Contractors have the right to request to see SDS information for the SMC site chemicals they may come in contact with while working in the facility. To obtain one of these SDS, contact the EHS Department.
- 19.1.5 Contractors must ensure that their employees read and understand the SDSs for the hazardous materials they are using. Unused hazardous materials shall be removed from SMC property at the end of the project.

### 19.2 Labeling

- 19.2.1 All hazardous materials used on SMC property must have appropriate identification and warning labels and must be stored and transported properly within the facility.
- 19.2.2 A proper label consists of the chemical name, its manufacturer and address, and the hazard of the chemical.
- 19.2.3 A typical label used at SMC for labeling chemicals is shown below. To know what information is required on the label for a particular chemical, you must refer to the chemical's SDS sheet. As you can see, the label used is the GHS standard format label.
- 19.2.4 Global Harmonized System (GHS)
- 19.2.5 OSHA recently adopted the international Global Harmonized System of Classification and Labeling of Chemicals in order to better align with the rest of the international community. Some important changes that the OSHA adoption of GHS will affect include: material safety datasheets (MSDS) are now safety datasheets

(SDS); manufacturer applied labels will be standardized and include pictograms and handling information.

19.2.6 See GHS Label Example below:

**The Basic Parts of A GHS-Compliant Label**

**1** → **n-Propyl Alcohol**

UN No. 1274  
CAS No. 71-23-8

**2** → **DANGER**

**3** → Highly flammable liquid and vapor. Causes serious eye damage.  
May cause drowsiness and dizziness.

**4** → Keep away from heat/sparks/open flames/hot surfaces. No smoking. Avoid breathing fumes/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing.

Fill Weight: 18.65 lbs.      Lot Number: B56754434  
Gross Weight: 20 lbs.      Fill Date: 6/21/2013  
Expiration Date: 6/21/2020

See SDS for further information.

**5** → Acme Chemical Company • 711 Roadrunner St. • Chicago, IL 60601 USA • www.acmechem.com • 123-444-5567

**6** → Pictograms

- 1. Product Identifier** - Should match the product identifier on the Safety Data Sheet.
- 2. Signal Word** - Either use "Danger" (severe) or "Warning" (less severe)
- 3. Hazard Statements** - A phrase assigned to a hazard class that describes the nature of the product's hazards
- 4. Precautionary Statements** - Describes recommended measures to minimize or prevent adverse effects resulting from exposure.
- 5. Supplier Identification** - The name, address and telephone number of the manufacturer or supplier.
- 6. Pictograms** - Graphical symbols intended to convey specific hazard information visually.

Sample label courtesy of Weber Packaging Solutions • www.weberpackaging.com

## 20.0 Chemical Storage

20.1 Incompatible hazardous materials must be stored and/or used separately.

- 20.1.1 **FLAMMABLE LIQUIDS & SOLIDS:** Store in flammable liquid storage cabinet. Separate from oxidizing materials.
- 20.1.2 **POISONS:** Separate from all other chemicals.
- 20.1.3 **CARCINOGENS:** Separate from all other chemicals.
- 20.1.4 **ORGANIC ACIDS:** Separate from mineral (inorganic) acids. Store in non-combustible cabinet. Separate from caustics, cyanides, and sulfides.
- 20.1.5 **INORGANIC ACIDS:** Separate from organic acids. Store in non-combustible cabinet. Separate from caustics, cyanides, and sulfides.
- 20.1.6 **OXIDIZING ACIDS:** Separate from other acids. Separate from flammables.
- 20.1.7 **BASES:** Store in dry area. Separate from acids.
- 20.1.8 **WATER REACTIVE CHEMICALS:** Store in cool, dry location. Separate from aqueous solutions. Protect from fire quenching water.
- 20.1.9 **OXIDIZERS:** Store in non-combustible cabinet. Separate from flammable and combustible materials.
- 20.1.10 **COMPRESSED GASES (Non-Oxidizing):** Store upright in well-ventilated area. Separate from oxidizing compressed gases.
- 20.1.11 **COMPRESSED GASES (Oxidizing):** Store upright in a well-ventilated area. Separate physically from flammable compressed gases.
- 20.1.12 **NON-VOLATILE, NON-REACTIVE SOLIDS:** Store in cabinets or open shelves.
- 20.1.13 **PEROXIDIZABLE MATERIALS:** Store in a cool and dry location. Keep away from sunlight.
- 20.1.14 **PYROPHORIC MATERIALS:** Ignites spontaneously in air. Store separately from flammable materials.

- 20.1.15 THERMALLY UNSTABLE MATERIALS: Store in flammable storage or explosion-proof refrigerators.
- 20.1.16 TOXIC SUBSTANCES: Store in a cool, well-ventilated area in an unbreakable secondary container. Keep away from light, heat, oxidizing agents, and moisture. Only a limited quantity should be present in a work location.

## 21.0 Hazardous Materials

### 21.1 Paints, Sealant, Adhesives, and Mastics

- 21.1.1 Contractors shall only use SMC approved paints, sealant, adhesives and mastics on SMC property. This group of materials (water and/or solvent based) should not be applied in occupied areas. Some work may need to be done during off hours to ensure SMC employees are not exposed. Mastics containing asbestos must not be used. If an approved product is unsuitable for the job, the EHS Department must be informed.

### 21.2 Solvents and Flammable Materials

- 21.2.1 Contractors shall not use solvents or any other type of similar flammable material without the prior approval of the EHS Office and/or the Security Department.

### 21.3 Pesticides

- 21.3.1 Contractors shall use only SMC approved pesticides on SMC property. Appropriate warnings stating the date, time, and location of pesticide use must be posted before application. (Warning signs may be obtained from the EHS Department.) Instructions to remove eating utensils and to wash items exposed during spraying are also required. Pesticide application is to be done in unoccupied areas only. The EHS Department must be notified in order to inform SMC employees. Physical barricades may be needed to ensure that employees cannot wander into a pesticide application area.

## 22.0 Hazardous Wastes

- 22.1 All hazardous wastes (such as contaminated rags, containers, brushes, and unused chemicals) must be removed from SMC property, properly transported, and disposed of in compliance with applicable city, state and federal regulations by the contractor at the end of the day unless an alternative arrangement has been agreed to by the EHS Department.
- 22.2 Hazardous waste shall not be disposed of in trash dumpsters, left onsite or dumped down the drain. The Contractor assumes all liability for hazardous materials used, spilled, and/or released while working on SMC property.

## 23.0 Lockout/Tagout

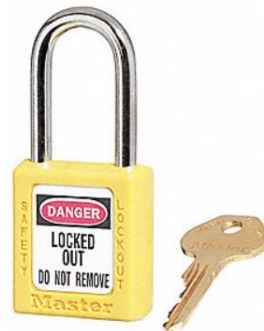
- 23.1 Contractors must implement and maintain an effective lockout/tagout program to protect employees from the unexpected energization, activation, or start-up of machines (e.g., lathes, drill presses, band saws, belt drives, etc.) and/or equipment during service or maintenance. Contractor lockout/tagout programs shall meet or exceed the requirements identified in OSHA 1910.147.
- 23.2 Any lockout/tagout procedures needed to perform work on site-owned equipment should be obtained from the EHS Department.
- 23.3 Contractor personnel must be provided with lockout/tagout accessories (locks, tags, nylon ties, multi-hasps, etc.) to perform general and specific lock out/tag out procedures by their respective companies. All locks used for personal lockout/tagout purposes shall be **RED** in



color. Locks used for other purposes (toolbox locks, locker locks, etc.) shall be any color but **RED**.



- 23.4 Locks used for general lockout/tag purposes (not for personal protection) shall be **YELLOW**.



- 23.5 Contractor lockout locks needing to be removed by someone other than the authorized person shall be removed using the SMC site lockout/tagout removal process with the additional requirement being the requester for removal shall additionally contact the leadership of the involved contractor and have them sign off on the lock removal form.
- 23.6 If work ceases at the end of the day with no work to progress the next business day, lockout/tagout locks and or tags shall be removed and replaced with the appropriate hazard warning tags and **YELLOW** locks.

#### 24.0 Safety Signs, Warning Tape and Labels.

- 24.1 Safety signs are posted to warn you of potential hazards. Follow the directions of all signs like "No Admittance Without Safety Glasses", "Confined Space Entry - Entry by Permit Only", or "Caution". Know what signs are posted in your area. If you do not know, ask your supervisor.



- 24.2 In addition to the various signages in the area, we also use tags and warning tape to warn employees of immediate and/or temporary hazards. When tape or barricades are used additional signage must be posted to define the hazard to workers in the general area or

passing by the work area. For example, when working overhead on lighting, place a sign on all perimeter boundaries indicating that the work presents overhead or falling material hazards.

- 24.3 If you identify a hazard in the area, you need to apply a tag with the appropriate warning to the hazard thus securing and labeling it until the hazard can be abated.
- 24.4 If you are performing an operation that poses a hazard to personnel who pass through the area, you should erect danger or caution tape to control access to the area.
- 24.5 Remember, red danger tape indicates an immediate hazard is present and ONLY authorized employees may enter. Yellow caution tape indicates a potential hazard is present and employees may enter by permission only from the person who erected the tape.
- 25.0 General Housekeeping
- 25.1 Contractors are responsible for keeping their work areas orderly and neat. If their work areas pose tripping or slipping hazards to SMC employees, proper warning signs must be posted. At the close of each workday, contractors must clean and free the work area of all trash, debris, tools, equipment, dust, extension cords, and/or similar hazards.
- 25.2 For extremely dusty work, sweeping must be done every two hours. Use moistened (non-kerosene based) sweep material when sweeping up dust.
- 25.3 The following are common housekeeping practices that all contractors should follow:
- 25.3.1 Place waste in proper receptacles and be sure receptacles are emptied regularly.
  - 25.3.2 Ensure corridors, aisles, exits, electrical panels, quick disconnects, safety signs, and emergency equipment are free of obstruction.
  - 25.3.3 Ensure walking surfaces are free of slip, trip, and fall hazards.
  - 25.3.4 Maintain desks, workbenches, storage cabinets, and shelves in a neat and orderly manner.
  - 25.3.5 Maintain tops of cabinets or shelves above employees free of material.
  - 25.3.6 Ensure carpets and mats are in good condition.
  - 25.3.7 Ensure electrical wiring is in good condition. Never overload or screw power strips to the wall.
  - 25.3.8 Remove and properly store electrical extension cords at the end of the day.
  - 25.3.9 Ensure chairs and furniture are in good condition without sharp edges or missing or broken parts.
  - 25.3.10 Ensure cardboard moving boxes are unpacked and discarded after use and not used for permanent storage.
  - 25.3.11 Ensure excess equipment is not stored in the work area.
- 26.0 Lead Awareness
- 26.1 Lead is a systemic poison. Overexposure to lead can damage blood-forming, nervous, urinary and reproductive systems. It is commonly added to industrial paints because of its characteristic to resist corrosion and add certain color characteristics.
- 26.2 Only licensed professionals will be permitted to remove/work with lead containing items.
- 26.3 Various paints on site may be lead based. Before welding or cutting on an object, ask your RFCM to verify if the object is lead free.
- 26.4 While lead removal operations are taking place, stay out of the area if you are not an authorized person in lead abatement.
- 26.5 Lead containing materials will be properly packaged and discarded per SMC /EPA requirements.
- 27.0 Welding, Cutting and other Hot Work
- 27.1 All sub-contractors conducting hot work, such as cutting, welding, brazing and/or use of open flame devices, must be coordinated in advance with the EHS Department and shall comply with the SMC policy for a Hot Work Permit. This program will be managed by the EHS

- Manager. These operations are under the direct supervision of the Facilities Department. The SMC Facilities Department issues approval permits for the use of any open flame. Contractors must receive an “authority to proceed” before beginning any work which may be hazardous to SMC employees, contractors, property, products, and/or equipment.
- 27.2 All welding and cutting operations outside of shop areas are required to have a trained fire watch standing by and a Hot Work Permit from Facilities. The fire watch is required to remain in the area for the duration of the operation plus 30 minutes after the operation has stopped and conduct a follow up inspection of not less than 1 hour after completion of the job.
- 27.3 Fire Watch has the right and responsibility to stop all cutting, welding and/or heating operations. (i.e., poor housekeeping, changes in environment, inadequate fire blankets, unsafe operation or placement of equipment). Contractor personnel conducting hot work operations will supply a fire extinguisher.
- 27.4 The Facilities Department can issue Hot Work permits day to day or for the whole week. To request a permit, please call the SMC Facilities Maintenance.
- 27.5 Additionally, all passers-by must be shielded from welding flashes, and contract employees must wear appropriate PPE for the job.
- 27.6 Do not cut or weld around flammable or combustible materials. Do not cut or weld on painted surfaces. Cutting and welding indoors shall be conducted on off hours unless authorized by the Facilities Department.
- 27.7 Proper PPE shall be worn during all welding/cutting operations:
- 27.7.1 Welding shield for UV light protection for arc welding operations and burning goggles for torch cutting and welding.
  - 27.7.2 Treated cotton clothing.
  - 27.7.3 Shirts without pockets
  - 27.7.4 Pants without cuffs
  - 27.7.5 Welder’s gloves
- 27.8 Proper ventilation shall be used when performing welding/cutting operations.
- 27.9 Respiratory protection may be deemed necessary if adequate ventilation cannot be achieved. EHS shall be consulted in this event.
- 27.10 All combustible materials shall be removed or protected in all directions - a minimum 35’ away. Immovable combustible objects shall be protected from sparks or slag while welding/cutting is taking place.
- 27.11 Prepping the area shall also include placing fire blankets in the work area to prevent slag and sparks from falling onto the ground surface.
- 28.0 Gas Cylinders
- 28.1 Oxygen cylinders and valves are to be kept free of oils and grease.
  - 28.2 Cylinders, when not in use, shall be stored upright with safety caps screwed on.
  - 28.3 Acetylene and Oxygen Cylinders shall be stored apart by a minimum 20’ or separated by a 30 minute firewall.
  - 28.4 Cylinders shall not be located in an area where sparks/slag can potentially make contact with the cylinders.
  - 28.5 Back flow preventers shall be installed at the regulator when performing oxygen/acetylene operations.
  - 28.6 Regulators shall be undamaged and in good working order. All attachments shall be assured that no material is leaking out of the fittings. Regulators shall be turned off when not in use.
  - 28.7 Caution should be used when using or working around inert gases such as argon, helium, and nitrogen. While not toxic, these gases are a concern with regards to potential oxygen depletion. Contractors shall inspect all inert gas cylinders and associated hoses, fittings, regulators, etc. to ensure that no leaks are present. In addition, the amount of dilution

ventilation and size of the room/area where inert gases will be used shall be assessed for potential oxygen depletion before the work is to commence.

### 29.0 Welders

- 29.1 Welder machines shall be grounded to the structural steel.
- 29.2 Electrodes must be stored in a way that will prevent damage. Welding rod must be removed while welder is not in operation.
- 29.3 Electric welders shall be SHUT DOWN and DISCONNECTED when left unattended in the process areas.
- 29.4 No electro-welding shall be permitted in wet conditions unless a shelter or other means are placed in the area to protect the work and equipment from the moisture.

### 30.0 Compressed Air/Compressed Air Cylinders

- 30.1 Operators shall only use approved hoses and couplings that are designed to handle compressed air at the pressure rating required. Couplings are not to be altered and must be inspected prior to each use. Air hoses shall never be supported from conduit. Shut off valves and bleed hoses before uncoupling. Other requirements include:
  - 30.1.1 Compressed air shall not be used to clean floors, or any other surfaces.
  - 30.1.2 Compressed air shall not be used to remove debris from clothing/PPE and not held against the skin.
  - 30.1.3 Compressed air nozzles shall be equipped with safety tips that prevent an over pressurization in the line if the nozzle is pressed against a solid surface (<30 psi).
  - 30.1.4 All compressed air bottles shall be stored upright, secured in place and have their valve caps twisted on when not in use.
  - 30.1.5 All cylinders need to be clearly labeled as to the contents they contain.
  - 30.1.6 All compressed gas cylinders shall be stored away from any other external hazards – heat, flame, radiant flame, etc.
  - 30.1.7 All cylinders shall be stored in areas away from physical harm.
  - 30.1.8 Cylinders being transported shall be secured in place to prevent them from tipping, falling or rolling.
  - 30.1.9 Cylinders that contain liquefied fuel gas shall be stored so the safety relief will always be in contact with the vapor space.
  - 30.1.10 Prior to hook up of all non-flammable, non-toxic compressed air cylinders, valves shall be cracked to blow any debris clear and all parts of the system shall be inspected for damage.

### 31.0 Refrigeration Management

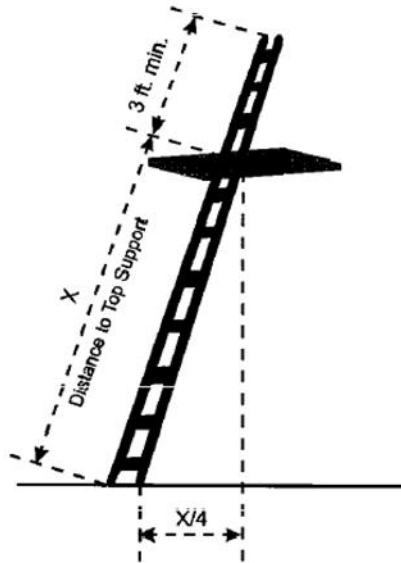
- 31.1 All sub-contractors performing work on refrigeration equipment shall comply with all applicable federal, state, and other local regulations.

### 32.0 Overhead Work/Fall Protection

- 32.1 All overhead work must be coordinated with the EHS Department. Areas below must be barricaded, and warning signs posted. All work at heights is to take place when areas below are unoccupied, or when coordinated carefully with the Facilities Department and EHS Office.

Any loose objects, such as tools or other equipment, must be secured to ensure that they cannot fall onto the areas below.

- 32.2 Contractors and/or subcontractors hired to work at elevations above four (4) feet are required to provide the following as part of the terms and conditions of the contract and/or subcontract and shall be required to flow these requirements to tiered contractors:
- 32.2.1 A site-specific hazard assessment and fall prevention plan prepared in accordance with the SMC Fall Protection Plan.
  - 32.2.2 A certification that all subcontractor employees assigned to the subcontract have been trained on the proper use, limitations, care, storage and maintenance of the fall protection/fall arrest systems required.
  - 32.2.3 A certification that the subcontractor understands and agrees to follow specifically 29 CFR 1926 Subpart M.
  - 32.2.4 All personnel will be fall protected when going 4' or greater off the working surface.
    - 32.2.4.1 100% fall protection is required.
    - 32.2.4.2 All persons required to use fall protection shall have documented training prior to working in fall protection situations.
    - 32.2.4.3 All fall protection equipment shall be inspected prior to use and used properly.
    - 32.2.4.4 Manufacturer recommendations shall be enforced (replacement dates, use, inspection requirements).
    - 32.2.4.5 Lifelines or special fall protection set-ups will be designed by a competent person as defined by OSHA 29 CFR 1926 Subpart M.
- 33.0 Roof Access
- 33.1 Any contractors that access the main building roof or dormitory roof are required to do the following:
    - 33.1.1 All contractors must have a current fall protection training certificate.
    - 33.1.2 Each contractor employee must have their own harness that has been inspected by a competent person.
    - 33.1.3 Each contractor employee must attend SMC's Roof Access Training before accessing the roof.
    - 33.1.4 Each person on the roof must use fall restraint as outlined in the SMC Roof Access Training at all times.
- 34.0 Ladders
- 34.1 All ladders shall be inspected prior to use and formally inspected once per year with appropriate documentation.
  - 34.2 Damaged ladders shall be tagged and immediately removed from service.
  - 34.3 Ladders shall not be repaired without the manufacturer's approval.
  - 34.4 Standing on the top two rungs of ladders is prohibited.
  - 34.5 Ladders are not allowed to be painted.
  - 34.6 All ladders used on site shall be used properly.
  - 34.7 No climbing is allowed on the braces of a ladder.
  - 34.8 Manufacturer's requirements shall be adhered to while using a ladder (no climbing on the rung labeled "do not climb").
  - 34.9 Ladders shall be stored in a fashion that will prevent damage.
  - 34.10 Stepladders are allowed a maximum 20' in height.
  - 34.11 Stepladders shall always be fully opened up, with braces locked, when going to be used.



- 34.12 Straight ladders shall be placed at a four to one (4:1 – every 4' up the ladder base is to move one foot out) angle.
- 34.13 Straight ladders shall be tied off at the top or secured at the bottom anytime a worker is in the process of climbing or using the ladder.
- 34.14 Straight ladders used to access an upper landing shall be extended 36" above the landing.

### 35.0 Scaffolding

- 35.1 Check out all parts of a scaffold prior to use.
  - 35.1.1 Guard rail (top rail, mid rail)
  - 35.1.2 Toeboard
  - 35.1.3 Planking
  - 35.1.4 Footing
  - 35.1.5 Frame
- 35.2 Materials shall not be dropped from scaffolds to lower levels.
- 35.3 Workers shall not tie off to scaffolds for fall protection unless no other point of tie off is available.
- 35.4 Scaffold platforms shall be free of debris, slick surfaces, or obstructions.
- 35.5 Never change any component of a scaffold without the approval of the competent builder.
- 35.6 All scaffolding must be constructed in accordance with OSHA Regulations. The regulations include the following:
  - 35.6.1 All scaffold 7 1/2 ft or higher be equipped with standard guardrails, top rail and mid rail, and toe boards on all sides and ends.
  - 35.6.2 All four wheels of rolling scaffolds must be locked. Riding moving scaffolds is prohibited.
  - 35.6.3 Scaffold may be required to have outriggers if over at a 4:1 ratio.
  - 35.6.4 Platforms must be planked solid.

### 36.0 Aerial Lifts

- 36.1 All mobile lifts, including fork lifts, man lifts, boom lifts, scissor lifts, and cranes, must be in good working condition, and their inspection certificates up to date.
- 36.2 Key points to apply when operating aerial lifts:
  - 36.2.1 Only trained and authorized personnel shall operate these vehicles on SMC sites.
  - 36.2.2 Fall protection (full body harness and self-retracting device is required in all aerial lifts including scissor lifts.

- 36.2.3 Contractors must provide their own aerial lifts. Only SMC employees are authorized to use SMC lifts.
- 36.2.4 You must inspect the aerial lift prior to use.
- 36.2.5 Minimal Inspection Items include:
  - 36.2.5.1 Platform Assembly
  - 36.2.5.2 Limit Switches
  - 36.2.5.3 Hose and Cable Guards
  - 36.2.5.4 Tire and Wheel Assembly
  - 36.2.5.5 Drive Hub
  - 36.2.5.6 Frame
  - 36.2.5.7 Fuel Supply
  - 36.2.5.8 Power Track
  - 36.2.5.9 Boom Pivot Shaft
  - 36.2.5.10 Tie Rods and Linkage
  - 36.2.5.11 Control Valve & Engine Compartment
  - 36.2.5.12 Engine Oil Supply
  - 36.2.5.13 Muffler and Exhaust System
  - 36.2.5.14 Ground Control Panel
  - 36.2.5.15 Battery and Cover
  - 36.2.5.16 Hydraulic Oil Supply
  - 36.2.5.17 Boom Sections
  - 36.2.5.18 Platform Control Console
  - 36.2.5.19 Hour Meter
- 36.2.6 Crane and forklift baskets shall only be used with the approval of site EHS.
- 36.2.7 You must tie off while inside an aerial lift at the lowest designated point.
- 36.2.8 If you use an aerial lift to access a higher level, before you can step out of the basket, a 2nd SRD must be worn so 100% fall protection can be maintained.
- 36.2.9 If you are operating in tight areas, use a spotter.
- 36.2.10 The gate on an aerial or scissor lift shall always be closed while in use.
- 36.2.11 When moving, scissor lifts shall be lowered all the way to the ground and aerial boom lifts shall be lowered to their lowest point where the operator can still see the path of

travel clearly. Cranes and forklifts using baskets shall never be moved with workers occupying the basket.

36.2.12 Outriggers (where applicable) shall be fully extended and locked in place.

37.0 Electrical

- 37.1 Electrical work must comply with the National Electric Code (NEC), OSHA, and any other applicable codes.
- 37.2 When working on a de-energized electrical circuit, a circuit breaker, or other electrical disconnect, the device must be locked out with a personal lock and the disconnect tagged.
- 37.3 When personnel might be exposed to open boxes or live conductors, barriers must be erected. Covers must be replaced every night and/or when work is suspended for a day or more.
- 37.4 Unused conductors must be properly identified and terminated. All circuit breaker boxes must have each circuit identified. Disconnects must identify the branch circuit of equipment that they control.
- 37.5 Any electrician who works with high voltage (more than 480 V) must have a CPR-trained employee standing by at all times.
- 37.6 Cords, Power Centers, Tools, etc., all electrical work shall be performed by a qualified electrician in compliance with SMC, National Electrical Code and State requirements.
- 37.7 All receptacles used for hand tools shall be protected by ground fault circuit interrupter (i.e. GFCI, or Pigtail with GFCI) in wet or potentially wet conditions.
- 37.8 Personal protective equipment used during electrical work shall be free from damage and in compliance with ASTM standards – this includes inspection requirements.
- 37.9 Any damaged personal protective equipment shall be tagged and immediately discarded.
- 37.10 Any damaged electrical equipment shall be tagged and removed from service.
- 37.11 Repairs to electrical equipment shall only be performed by qualified electricians.

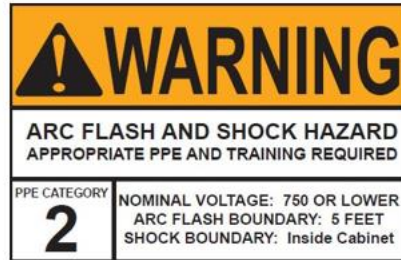
38.0 ARC Flash Safety

- 38.1 SMC has implemented an Electrical Arc Flash Safety Program. Under NFPA 70E Article 110.5, all work tasks performed at SMC that could potentially involve the exposure to live



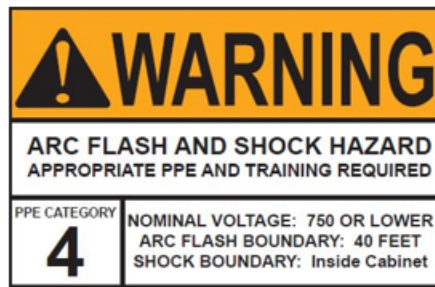
- conductors of 50VAC and greater will from this date forward require a minimum amount of Personal Protective Equipment (PPE) to safely perform these tasks.
- 38.2 The electrical/arc flash PPE categories that your employees may encounter while performing work at our facilities include: PPE Category 2, PPE Category 4, and PPE Category PROHIBITED.
- 38.3 All electrical enclosures have been labeled with the applicable PPE category for that enclosure. If you find an electrical enclosure that is not labeled with the PPE category, do not open or perform work in that enclosure. Immediately contact:
- 38.3.1 Brian Armstrong
  - 38.3.2 Facilities Manager
  - 38.3.3 317.339.3186
  - 38.3.4 [Brian\\_armstrong@smcusa.com](mailto:Brian_armstrong@smcusa.com)
  
  - 38.3.5 Chip Glisson
  - 38.3.6 Facilities Manager
  - 38.3.7 317.313.1525
  - 38.3.8 [cglisson@smcusa.com](mailto:cglisson@smcusa.com)
- 38.4 or your project contact person so that the PPE category of that enclosure can be determined prior to your work. Never open an electrical enclosure unless you are entirely sure of the PPE required to do so safely.
- 38.5 If your company and personnel are involved in lock out/tag out operations at SMC, the authorized employee must verify zero energy state before starting work. Arc flash PPE must be used prior to opening any cabinet or panel to verify zero energy state.
- 38.6 The following Personal Protective Equipment requirements are applicable to the PPE categories listed below:

38.7 Category 2



Clothing	Arc Rated (AR) Long Sleeve Shirt, Pants and Balaclava of at least 8 cal/cm <sup>2</sup>
Gloves	Insulating Rubber Electrical Gloves with Leather Protector Gloves
Other PPE	Safety Glasses, Class E-Rated Hardhat with a Face Shield and Chin Cup of at Least 8 cal/cm <sup>2</sup> ATPV, Ear Plugs, Leather Shoes
Tools	Insulated Tools Only

38.8 Category 4



Clothing	40 cal/cm <sup>2</sup> ATPV Arc Rated (AR) Arc Suit Arc Rated Shirt and Pant (Undergarments)
Gloves	Insulating Rubber Electrical Gloves with Leather Protector Gloves
Other PPE	40 cm <sup>2</sup> ATPV Arc Hood, Ear Plugs, Leather Shoes, safety glasses
Tools	Insulated Tools Only

38.9 Any electrical enclosure that is labeled as PPE Category PROHIBITED cannot be opened or worked in at any time. The only contractors who have permission to de-energize, verify a zero-energy state, and perform any tasks in PPE Category PROHIBITED enclosures are

medium/high voltage specialists with special permission granted from SMC Management, and who are working in coordinating with the electric utility company.

### 38.10 Category PROHIBITED



38.11 To perform electrical work at SMC, your company agrees to:

- 38.11.1 Meet with SMC representatives, prior to beginning any work, so you can review the SMC electrical safety program, and SMC can review your applicable safety program(s), and
- 38.11.2 comply with this policy while working for our company, and
- 38.11.3 provide the necessary training of your employees to ensure technical competency prior to performing electrical tasks on our properties, and
- 38.11.4 provide and properly maintain the various personal protective equipment items outlined in this policy, and
- 38.11.5 communicate with us, prior to performing any electrical-related tasks, any electrical hazards that you find while on our property which you feel may have not been fully addressed in this policy.

### 39.0 Powered Industrial Trucks

- 39.1 Contractors must provide their own PITs. Only SMC employees can operate SMC-owned equipment.
- 39.2 All powered industrial trucks (including powered pallet jacks) operators must be trained and licensed to operate the powered industrial trucks that they are operating.
- 39.3 Training involved with powered industrial trucks must involve classroom instruction and competency-based instruction on the actual powered industrial trucks the individual will be operating.
- 39.4 All operators will perform a daily check on the powered industrial trucks prior to use. Each operator is still obligated to perform a walk around before the use of the piece of equipment.
- 39.5 Forklift Rules of the Road
- 39.6 Inspect the forklift at least daily before use; don't use one that could be unsafe.
- 39.7 If an overhead hazard exists, wear a hard hat as protection against falling objects or tipovers.
- 39.8 Know the floor surface, obstructions, classified locations, slopes, pedestrian activity, etc., on your forklift-driving route.
- 39.9 Seatbelts are required and the operator shall wear them.
- 39.10 Obey speed limits (5 MPH).
- 39.11 Yield the right of way to pedestrians and emergency vehicles.
- 39.12 Slow down on a wet or slippery floor.
- 39.13 Don't indulge in horseplay or stunt driving.
- 39.14 Don't drive up to a person standing in front of a fixed object.
- 39.15 Don't transport an unauthorized person on the forklift.
- 39.16 Keep your arms, legs, and hands inside the truck.
- 39.17 Keep your travel route clearly in view, with the load behind if it blocks your view.
- 39.18 Stay at least three truck lengths behind another truck.

- 39.19 Slow, stop, and sound the horn at cross aisles or if you can't see well.
  - 39.20 Slow down before making a turn.
  - 39.21 Don't pass at intersections, blind spots, etc.
  - 39.22 Stay a safe distance from the edge of elevated ramps or platforms.
  - 39.23 Drive slowly and carefully over dock boards or bridge plates; don't exceed their rated capacity.
  - 39.24 Go up and down grades slowly; on grades over 10 percent, keep the load upgrade and raised just enough to clear the surface.
  - 39.25 Power industrial trucks shall be shut down with the brake engaged and forks lowered all the way to the ground when the operation is greater than 25' away and/or their field of vision is blocked from a clear view of the fork truck.
  - 39.26 No device provided by a manufacturer shall be made inoperative in any way.
- 40.0 Mobile Cranes
- 40.1 Any unusual movements of heavy equipment, i.e., over buildings, floors, roofs, into elevators, over plant roads, over potentially populated and/or pedestrian areas, must be coordinated with your Facilities contact and EHS.
  - 40.2 All required barricades and warning signs must be used.
  - 40.3 Tag lines and proper rigging are required.
  - 40.4 Only certified crane operators may operate cranes or hoists on SMC property. DO NOT operate cranes and hoists within 10 feet of electrical power lines.
  - 40.5 When using cranes, only trained operators and riggers will be allowed to work with a crane.
  - 40.6 All cranes shall be inspected prior to spotting for a lift.
  - 40.7 Cranes shall be inspected annually by a competent person unless sitting idle for 6 months then it is required to be inspected every 6 months.
  - 40.8 Some situations may require a critical lift (contact site EHS):
    - 40.8.1 Load exceeds 80% of Load Chart for crane or derrick.
    - 40.8.2 Load exceeds 50% of Load Chart, and failure would endanger existing facilities.
    - 40.8.3 Two booms are required.
    - 40.8.4 Poles or derricks have been erected for this specific lift.
    - 40.8.5 Crane or work platform will be located within 50 feet of overhead power lines.
    - 40.8.6 Use of work platform or personnel basket to lift people.
  - 40.9 While loads are being lifted, all persons shall be cleared from underneath the load.
  - 40.10 Outriggers shall be fully extended and on pads unless otherwise noted on the critical lift permit.
  - 40.11 Spotters/signalers shall be in clear view at all times during the lift.
  - 40.12 Suspended free-swinging loads SHALL be controlled by means of a tag line.
  - 40.13 Cranes shall not be left running unattended.
- 41.0 Hoists
- 41.1 All hoists shall be inspected prior to use and formally at least annually unless, due to frequency of use, a more routine inspection schedule is required.
  - 41.2 Come-alongs shall be kept in good condition without any defects or damage.
  - 41.3 All hoists require an operator to be trained prior to using the hoist.
  - 41.4 Never side-load a vertical hoist.
  - 41.5 Never overload a hoist.
  - 41.6 Repairs to a hoist may only be performed by a competent person.
- 42.0 Confined Spaces
- 42.1 Confined Spaces are defined as areas with limited openings for entry and exit, large enough for workers to enter and work, and are not designed for continuous worker occupancy. Confined spaces on site are labeled with a sign and are considered permit required:



- 42.2 Entry means the action by which a person passes through an opening into a confined space. Entry occurs as soon as any part of the entrant's body breaks the plane of an opening into the space.
- 42.3 Confined space entry permits issued by the contractor or authorized personnel must be completed prior to entering a confined space and posted at the job site.
- 42.4 All employees entering confined spaces must be included in contracting company's Confined Space Entry Program in compliance with the OSHA 1910.146 standards.
- 42.5 Entry into a sewer, elevator pit, electrical vault, pit, or manhole requires advanced testing for oxygen, toxic, and combustible vapors. Ventilation equipment, two workers in a "buddy system," emergency retrieval equipment, and training in rescue operations are also required.
- 42.6 SMC does not provide confined space entry permits or confined space emergency response for outside contractors. SMC does provide a hazard assessment to contractors to communicate site-specific issues and hazards involving a specific confined space entry operation. This hazard assessment is used in conjunction with contractor's confined space entry permit operations. Check with EHS to obtain a list of known confined spaces.
- 43.0 Explosives
- 43.1 Explosives shall not be brought on site without prior notice and only with written permission from the site EHS Manager.
- 44.0 Excavations
- 44.1 No excavating shall be done without the knowledge of EHS. The contractor must have current drawings for the job being performed.
- 44.2 A daily excavation check shall be completed by a competent person meeting or exceeding the requirements identified in OSHA 1926.650.
- 44.3 An atmospheric test shall be performed using a gas monitor prior to entering any excavations.
- 44.4 For excavations greater than 25' deep, a Registered Professional Engineer shall be involved with the planning approval for entry.
- 44.5 All excavations five feet or more in depth that are to be entered by personnel must be protected by a system of shoring, sloping of the ground, benching, or an alternate method which meets the requirements of OSHA Construction.
- 44.6 All excavations must be barricaded, and appropriate warning signs posted.
- 44.7 Open Trenches and Pits
- 44.7.1 Open holes created by the removal of trench plates are to be appropriately barricaded with warning cones, warning signs, or the equivalent.
- 44.8 Barricades and Warnings
- 44.8.1 All excavations must have appropriate barricades and warnings to alert employees to the danger in the immediate area and physically stop them from coming too close to the opening. Where a fall hazard exists near a main pedestrian walkway, a substantial barricade shall be erected to prevent to employees from falling. Doors leading into the area *must* have warning signs.
- 44.8.2 Barricades must be red or orange - objects that employees will recognize. If warning tape is used to regulate traffic, both vehicular and pedestrian, a regulated area

surrounding the work area shall be established by the use of red tape which has the wording, "Danger - Do Not Enter".

45.0 Energy Conservation

45.1 A common-sense approach is to promote improved energy efficiency and renewable resources that provide cost-effective opportunities to reduce greenhouse gas emissions, enhance the comfort and quality of our homes, increase the productivity of business, reduce emissions of criteria air pollutants, and improve the reliability of the nation's power sector. One of the ways we can support this concept is through Energy Conservation activities. Below are some of these activities we can follow:

45.2 In common areas:

- 45.2.1 When leaving a conference room, ensure that any overhead lights are turned off.
- 45.2.2 When using a TV monitor, computer, projector, or DVD player in a demonstration, make sure you turn them off when you are done.
- 45.2.3 Coffee pots and refrigerators in common areas should be kept to a minimum.

45.3 In your office:

- 45.3.1 Turn off your computer and monitor when you're not using them.
- 45.3.2 Where possible, install Energy Star® equipment and software to allow computer monitors to go into "sleep mode" when not in use.
- 45.3.3 Utilize task lights in your office only when necessary.
- 45.3.4 Use double-sided copying whenever possible. It takes 10 times more energy to manufacture a piece of paper than it does to copy an image onto it.
- 45.3.5 For three copies or less, use the printer; for more, use the copier.
- 45.3.6 Do not use personal space heaters in office spaces.

45.4 In Production areas and Lab Space:

- 45.4.1 Identify idle equipment and shut it off when not needed.
- 45.4.2 Instill "equipment off when not in use" discipline.
- 45.4.3 Review the process and process flow in the area and determine if there are any changes that can be made to reduce the time equipment is used or left idling.
- 45.4.4 Where possible, install Energy Star® equipment and software to allow computer monitors to go into "sleep mode" when not in use.
- 45.4.5 Report any temperature, humidity and exhaust problems to facilities.

<b>Contractor Handbook</b>		<b>EP 5.4</b>
	<b>Revision # 0</b>	<b>Page 31 of 31</b>



Todd D. Chimel, CSP  
Environmental, Health & Safety Manager