

## **MANAGEMENT COMMITMENT**

**Mission Statement:** KCEAA will continue to provide a clean, safe and healthy place to work, and KCEAA will provide the best equipment possible. All employees are expected to work safely, observe safety rules and to keep the premises clean and neat.

**Purpose:** This manual is intended to serve as a guide to safe work practices and reference Company Departmental Operating Procedures. Company Operating Procedures and Medical Protocols will supercede common work ideals without compromising employee safety and health.

**Scope:** KCEAA management is committed to the development and evaluation of the safety program. It will be the management's responsibility to enforce this program. Furthermore, management understands that this program is dependent upon its commitment.

### **Comments**

- All employees will have access to safety policies, procedures and guidelines.
- Employee adherence to safety policies, procedures and guidelines is a condition of employment.
- KCEAA will train employees for specific potential safety and health hazards, emergency operations and safe working practices. The initial training will occur before assignment or KCEAA may certify that workers have the required knowledge, skills, and abilities to safely perform duties and responsibilities specified in specific departmental operating procedures.
- Refresher training will be offered as necessary to employees in operating a process to ensure that they understand and follow the current operating procedures of that particular process. The training will be documented.

## **GENERAL**

### **Safety rules**

Safety is everybody's business. Safety is to be given primary importance in every aspect of planning and performing all KCEAA activities. KCEAA wants to protect its employees against occupational injury and illness, as well as minimize the potential loss of production.

All employees are to report all injuries (no matter how slight) to their supervisor immediately, as well as anything that needs repair or is a safety hazard. The following are some general safety rules. Supervisors or department heads may post other safety procedures in their departments or work areas:

- Wear the proper BSI (body substance isolation) in accordance to State or Regional Protocols.
- Use proper lifting techniques. Not all lifts are “*Urgent Moves*”.
- Become familiar with the KCEAA Infectious Control Procedure.
- Avoid overloading electrical outlets with too many appliances or machines.
- Route electrical cords in a way as to not be tripping hazards.
- Use flammable items, with caution, away from ignition sources.
- Walk -- don't run.
- Use stairs one at a time. At least one hand on handrail.
- Use three-point contact on ascent and descent.
- Report to your supervisor if you or a co-worker becomes ill or is injured.
- Ask for assistance when lifting heavy objects or moving heavy furniture.
- Smoke only in designated smoking areas.
- Keep cabinet doors and file and desk drawers closed when not in use.
- Never empty an ashtray into a wastebasket or open receptacle.
- Sit firmly and squarely in chairs that rolls or tilt.
- Wear or use appropriate safety equipment as required in your work.
- Avoid "horseplay" or practical jokes.
- Start work on any machine only after the energy source has been eliminated. Start work only after safety procedures and requirements have been explained (and you understand them).
- Use air hoses only for the use intended. Avoid blowing air at yourself or anyone else.

- Wear appropriate personal protective equipment, such as shoes, hats, gloves, goggles, hearing protectors, etc., in designated areas or when working on a scene that would require their use.
- Keep your work area clean and orderly and the aisles clear.
- Stack materials only to safe heights.
- Watch out for the safety of fellow employees.
- Use the right tool for the job, and use it correctly.
- Wear gloves whenever handling debris or scrap materials, etc.
- Operate motorized equipment only if authorized by your immediate supervisor.

Remember that failure to adhere to these rules will be considered serious infractions of safety rules, and will result in disciplinary action, up to and including termination.

## **Safety Reporting**

KCEAA shall establish a system to allow the employees a method to communicate safety-related suggestions, reports of hazards, or other information directly to their Supervisor. The information obtained shall be forwarded to the safety committee for review and possible course of action.

***To report a Safety concern***, email your concern to “SAFETY”. All safety concerns sent to the Safety Committee will be placed on the meeting agenda. Action will be taken on each report and a SHC member will provide feed back to the person reporting the concern.

***All imminent safety concerns should be secured, avoided and reported immediately to your Supervisor or KCEAA Unit 511.***

## **KCEAA Safety and Health Committee**

We are dedicated to providing a safe and healthful environment for employees and customers, protecting the public, and preserving KCEAA assets and property.

To achieve this objective, KCEAA Management we will empower and support a Company Safety Committee made up of its employees to govern an effective Safety Program.

At KCEAA, our most valuable resources are the people who work for us. A joint safety committee is a forum for bringing the internal responsibility into practice. The committee consists of department representatives and field workers who meet on a regular basis to deal with safety issues. The advantage of a joint committee is that the in-depth practical knowledge of job specific tasks is brought together with the larger overview of company policies and procedures.

This program is designed to encourage all employees to promote the safety of their fellow employees and customers. To accomplish our safety goals, all members of management are responsible and accountable for supporting this committee.

- KCEAA shall limit the number of committee members keeping in mind an equal balance between management and workers.
- The committee shall meet once a quarter and be reimbursed for their time.
- The committee shall have representatives from each department.
- The KCEAA Safety Director shall act as chairperson and facilitate and schedule meetings.
- The committee shall have a written agenda for conducting safety committee meetings. The agenda shall describe the order in which committee business will be addressed during the meeting.
- Minutes shall be made of each meeting. Copies shall be made available and sent to each safety committee member.
  - a. All reports, evaluations, and recommendations of the safety committee shall be made a part of the minutes of the safety committee meeting.

b. Minutes and supporting documents shall be maintained for three years.

- All safety committee members shall receive training related to the hazards of their specific work environment.
- The committee shall establish a system to allow the members to obtain safety-related suggestions, reports of hazards, or other information directly from all employees involved in the operations of the workplace. The information obtained shall be reviewed at safety committee meetings, and shall be recorded in the minutes for review and necessary action by the employer. A method of closure shall be provided to the initiator for safety and health issues addressed.
- The committee shall conduct workplace inspections at least quarterly. The inspection team shall include management and non-management representatives and shall document in writing the location and identity of the hazards and make recommendations to the employer regarding correction of the hazards.
- The committee should review the safety features of all equipment, materials and safety literature purchased by the company. They should recommend the purchases of all personal protective equipment and evaluate all safety procedures.
- The committee shall not interfere with Incident Command Structure where a Safety Officer is appointed.

## **Accident / Investigation Procedure**

From time to time KCEAA vehicles may be involved in an accident involving other property or another vehicle. This procedure will be as follows:

### **Procedure**

1. The driver of any KCEAA vehicle involved in an accident will contact the duty supervisor immediately, regardless of the damage or how minor the accident appears.
2. Crews will contact the nearest police agency with jurisdiction as soon as they have determined there are no injuries.
3. Crews will be directed to gather information from the scene of an accident (i.e.: witnesses, injuries, identity of the other driver, owners of personal property, etc.).

### **Supervisor Action**

1. Supervisors will respond to any accident involving KCEAA vehicles. Especially multi vehicle accidents, accidents with injuries, or severe property damage.
2. Supervisors will photograph the accident scene (i.e.: skid marks, both vehicles from all four corners, and the inside of the other car, etc).
3. Supervisors will complete an accident form on scene.
4. The Supervisor will notify the Safety Director as soon as possible.
5. Police reports will be gathered as soon as possible. All information will be forwarded to the KCEAA Safety Director.

An Accident Review Board is maintained for the purpose of reviewing accidents involving KCEAA vehicles. The review board will be operated and configured as follows:

The Board consists of the KCEAA Safety Director, Safety Clerk, Field Supervisor and a Field Person.

They will meet once per month for A&I action or as needed to address issues.

### **Guidelines**

1. All accident reports will be forwarded to the Operations Chief as soon as possible. The report will contain all written statements from the parties' involved, as well as pertinent drawings, photos and police reports, where applicable.
2. Upon receipt of the reports, the Operations Chief will forward all information to the Safety Director and the decision to activate the A&I Review Board will be determined by the Operations Chief and the Safety Director.
3. The A&I Board reviews the reports submitted. The employee involved may present testimony, as they feel appropriate. He may also call witnesses to the meeting for testimony. The Board asks questions as appropriate.
4. The A&I Board is not bound by the rules of evidence as in criminal/civil courts, nor must it conduct reviews in formal fashion. The Board decides what evidence is admissible and may limit testimony and attendance. The Board may appoint an investigator where necessary. The Board may also refuse to review cases where there is overwhelming evidence of no fault on the part of the KCEAA operator.
5. The A&I Board after hearing all of the testimony and considering all of the submitted evidence shall render a decision as to recommendations to the employee's supervisor for action. Action is based on precedence where available.

**AMBULANCE OPERATIONS**

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## OPERATIONS Guidelines

The emergency vehicle operator's primary responsibility is the safe arrival to and transport of the victim in need of emergency care. Safe is recognized as minimizing risk to avoid an accident and provide smooth transport of the attendant and patient, this will allow for the smooth delivery of care. In order to provide care to victims in need, the ambulance and crew must arrive safely to the scene. No emergency, regardless of severity, warrants exposing the vehicle and crew to the potential for accident.

### Speed of the Ambulance

- The operator should drive to the scene with all due speed consistent with safe arrival. The speed of the vehicle shall never be so that control of the vehicle is compromised. **At no time shall the ambulance exceed the posted speed limit.** Under situations of reduced visibility or inclement weather, the operator of the emergency vehicle will proceed below the posted speed limit.
- Proper use of warning lights, siren, headlamps and other signaling devices are essential during an emergency response.
- The vehicle speed in the parking lots at the Central Brooks Street Complex is 5 MPH.  
**Ambulances and Buses are to IDLE through the parking lots – no exceptions – not even during code response.**  
**We are to use the same guideline at Central facility as we do in school zones.**

### Traffic Control Signs

- The Emergency Vehicle Operator (EVO) will stop at all posted stop signs, red lights and railroad crossings when lights are flashing or gates are down.
- Never assume that Civilian vehicles are going to yield the right of way.

### **Cell Phone Usage**

- Cell phone use is not permitted when driving a KCEAA Ambulance or bus unless it is hands free.

### **School Buses, Zones**

- The EVO will obey posted speed limits in school zones.
- The operator of the emergency vehicle shall not pass a stopped school bus.

### **Reflective Clothing**

- During darkness or night operations on paved roadways, reflective clothing must be worn and visible. Either a jump suit, reflective vests provided, hat or striping on footwear will suffice.

### **Operation of the Emergency Vehicle (EV) with Patient on Board**

- Few situations require high-speed transport to the emergency facility. These situations are usually that of impending death where only the intervention of emergency department personnel will preclude such. Even then, the EV must arrive safely at the facility for such care to take place. Every precaution must be taken to reduce the risk of injury to the crew or civilians.
- In situations where there is not a risk of loss of life or limb, transport should occur at or below the posted speed limits. Lights and sirens should be limited in this situation. Employees should consider if red lights and siren would save time that is of direct benefit to the patients' treatment and outcome. This also encourages the operator to slow the vehicle, allowing the attendant to deliver quality care. All traffic control devices and signs should be obeyed. Proper use of turn signals is a must.
- The EVO should allow 5 clicks of the signal for proper warning of an impending turn.

## **Intersections**

Intersections provide a location for a high incidence of accidents between civilian and emergency vehicles. This is due in part to restricted visibility, traffic density, and assumption by the operator that other vehicles will yield the right of way. Additionally, civilian operators may be confused by the sound of sirens and may not react in the manner that the emergency vehicle operator expects.

- As a general rule, slow down before reaching the intersection. This allows you to get a good view of any hazards. The siren should be in the yelp mode while approaching the intersection. This will avoid a startled response from an unsuspecting motorist. Do not negotiate the intersection on the right side of the roadway.
- The EVO should avoid traveling in the opposing traffic lane. If it is required, stay as far to the right of the roadway as possible and proceed with extreme caution utilizing the described procedures.
- **Crossing on Green** Take the foot off the accelerator and slow the vehicle. Vehicle should be at or below the posted speed limit allowing the operator see in all three directions. Be especially aware of vehicles that may turn in front of the ambulance. After visually clearing the intersection, proceed with caution.
- **Crossing on Red** Bring the ambulance to a complete stop. Establish eye contact with other drivers in the intersection. If applicable, wait for your partner to communicate an "all clear". Wait two seconds for further safety. Proceed with caution.
- **Right or Left Turns Across Stopped Vehicles** Bring the ambulance to a complete stop beside the vehicle. Establish eye contact with the driver of the other vehicle, either yourself or via your partner. If applicable, wait for your partner to communicate an "all clear". Proceed with the turn with due caution. Be aware of vehicles approaching from behind the ambulance. Make sure you signal your Intentions to other motorists.

## **Backing of the Ambulance**

- At all times where a patient is not on board of the ambulance, the passenger of the EV will act as a ground guide. He/she shall exit the vehicle and while in view of the driver through the driver side mirror, shall guide the operator through the maneuver.
- The driver of the EV shall not back the ambulance until he has established eye contact with the ground guide. The window of the EV should be rolled down so as to allow the driver to hear instructions of the ground guide.
- In situations where a patient is on board or no ground guide is available, the EVO shall exit the vehicle and walk completely around such to check for hazards. Only then can the vehicle be backed up. In any situation where an alternative to backing is available, the EVO shall utilize such.

## **Following Distances**

- Tailgating is a factor in one of every four accidents. The stopping distance for the ambulance is considerably longer than that of a car. For these reasons, the EVO must create a proper margin of safety. This can be accomplished using the "four second rule".
- Maintaining the margin is not always easy. Civilian vehicles will pull into the margin. Your speed is also a factor. Excess speed and tailgating go hand in hand. If you find yourself slipping into this pattern, slow down and back off. Drop back as often as necessary to maintain the proper distance.

## **Parking Guidelines for CAMC Facilities**

**Vehicle Parking:** Exhaust fumes being drawn into the ventilation system at CAMC facilities requires all KCEAA vehicles to be shut down on delivery of their patient to the facility.

The following will outline our cooperation in assisting CAMC in dealing with the problem:

- After unloading patients, move your vehicle away from the ER entrance as soon as possible if the vehicle has to remain running.

- If you have problems locating a parking place to move your vehicle into, locate a security guard and they will assist you.
- If the vehicle can't be moved it is to be shut down while in the Emergency Department Dock. If you have used all the lights on the vehicle while transporting make sure the vehicle has time to recharge the electrical system.
- While at the dock if your vehicle has to be shut down the batteries will also be shut down, saving the electrical system to start the vehicle again.

## **FUELING Guidelines**

### **General Guidelines**

- When you pull up to the pump, shut off the engine and apply the parking brake.
- NO SMOKING WITHIN 20 FEET OF FUEL PUMP.
- NO USE OF CELLULAR PHONES or RADIOS WHILE FUELING.
- Put the nozzle in the tank, turn the pump on, and begin fueling.
- **DO NOT** put any thing in the nozzle to keep it pumping in the event the shut off is defective. As a result there can be a fuel spill.
- After fueling, shut off the pump return the nozzle

### **Fuel Spills**

Crews shall notify the maintenance department immediately when a fuel spill occurs. Followed up by proper documentation to the Operations Supervisor.

Fuel spills shall not be left unattended until the area is secured within HAZMAT Guidelines.

## **OXYGEN AND AIR BOTTLE CHANGES Guidelines**

Large oxygen bottles will be changed at 500 lbs. and the portable bottle will be changed at 400 lbs. Air bottles will be changed at the 500lbs, with exception to neonate vehicles, which will change large oxygen and large air bottles at 600 lbs.

### **General Guidelines**

If portable oxygen is needed on a vehicle during normal hours, it may still be ordered through the courier. If oxygen is required after normal hours or a vehicle stops by central requiring portable oxygen the following procedures will be used. The designated area for the portable bottle storage will be located against the wall in garage in the blue bin storage area.

- Place the empty cylinder in the area marked **empty**
- Pick – up a full cylinder from the area marked **full**
- If no full cylinders are available contact the shift supervisor for direction

The KCEAA courier makes deliveries of supplies and other items to ambulance stations on a daily basis. The courier will also deliver oxygen. This SOP describes the procedure for securing oxygen from the courier.

### **Procedure**

1. When the need for oxygen arises, crews will notify Communications the night before or morning of delivery. Communications shall maintain a "make-ready log" and provide such to the courier prior to his departure from the supply depot.
2. The courier will deliver oxygen to the stations as directed on the "make-ready log". He will deliver portable bottles marked "spare" in exchange for empty cylinders left at the station. Upon arriving at Supply, he will fill all empty cylinders and return them to the delivery vehicle. On the following day, he will return the labeled cylinders to the appropriate unit in exchange for bottles labeled "spare".
3. “D” cylinders will be delivered to the stations per the log, but are not to be changed by the courier.

## **Exceptions**

***The exception to this procedure when the need for oxygen arises on evenings, weekends and holidays. It will be necessary to report to Central, per the Duty Supervisor, to obtain oxygen.***

Great care must be exercised in the handling of compressed gas and O2 cylinders.

- They must never be dropped or banged together.
- They must be stored inside, upright in well-ventilated area away from any source of heat, oil or exposed electrical wiring.
- A chain or other suitable means to prevent tumbling must secure them.
- Steel protective caps are to be screwed down to the last thread, except in use.
- Never leave a cylinder in a standing upright position without being secure.

*A full "M" O2 Cylinder has enough torque, if the fitting is broken, to move two fully loaded coal rail cars 50 feet.*

- Physical movement of "M" cylinders is to be done by securing to a hand truck.
- All full cylinders are to be stored in a cage and chained.
- All empty cylinders are to be stored separate from full cylinders, labeled as "empty" and chained.
- A cascade system will be used to fill portable O2 cylinders. The portable cylinder will be secured and partially submersed in water during filling.
- Oxygen cylinders are to be stored at least 20 feet from other type flammable cylinders.

## **How to Refill Your O<sup>2</sup> Cylinder**

There is a systematic approach to filling O<sub>2</sub> tanks without equalizing the fill tanks. The following 17 steps should help understand the oxygen refilling process and eliminate the equalizing of the cascade system.

1. Place portable O<sup>2</sup> cylinder into holding bucket.
2. Attach O<sup>2</sup> regulator from cascade system to your portable O<sup>2</sup> bottle.
3. Open your portable O<sup>2</sup> valve.
4. Open in-line shutoff valve
5. Open cascade bottles #1 until bottles are equalized.
6. Close cascade bottle #1.
7. Open cascade bottles #2 until bottles are equalized.
8. Close cascade bottle #2.
9. Open cascade bottles #3 until bottles are equalized.
10. Close cascade bottle #3.
11. Open cascade bottles #4 until bottles are equalized.
12. Close cascade bottle #4.
13. Open cascade bottles #5 until bottles are equalized.
14. Close cascade bottle #5.
15. Close your portable O<sup>2</sup> valve.
16. Close in-line shutoff valve
17. Remove oxygen regulator from cascade system and place in holder.

**Always remember, at no time should there be more than one cascade bottle opened while filling any oxygen bottles.** If you should have any questions about this matter, ask someone to help you and give you an in-service on this process.

## **PREVENTING BACK INJURIES Guidelines**

Back injuries are the leading national workplace injury. Workers whose jobs require frequent lifting, loading or unloading of light or heavy weights, pushing and pulling objects, and tasks requiring bending, twisting or reaching for long periods are prime candidates for back injuries. Back injuries can be prevented with training and planning.

There are some guidelines for you should keep in mind for any situation that involves lifting and moving of patients.

**Devise the plan before packaging the patient.** Make decisions based on the patient's medical needs and logistics of moving to and from the ambulance. If time permits, devise a plan for safe transfer and safe lifting techniques.

**Summon adequate help before moving the patient.** If you drop a patient during a lift, the EMT's' behavior could be viewed as negligent. If you need more manpower or equipment, summon additional fire companies or hospital personnel immediately after your initial scene size-up.

**Perform your initial assessment and begin appropriate medical care before packaging the patient.** The exception to this rule is when your patient is found in a situation hazardous to either them or you.

### *Body Mechanics*

- Stretch first, if time allows.
- Keep the weight of the object as close to your body as possible.
- Keep your back straight and lift with your hips and legs.
- Make sure your feet are positioned properly (linebacker stance).
- Keep a slight bend at the knees.
- Never twist or attempt to make another move while lifting.
- Never hyperextend the back.
- Communicate WELL and OFTEN with your partner.
- Know your limits.

## **BIO-HAZARDOUS MATERIALS SAFETY Guidelines**

Bio-Hazardous Waste is any waste that has been contaminated with body fluids. Kanawha County Ambulance is required to dispose of any and all Bio-Hazardous waste under certain guidelines.

Contaminated waste is to be kept separate of regular trash and/or garbage and incinerated in appropriate facilities.

### I. PURPOSE

To provide and ensure proper storage, handling, disposal, identification and labeling of Bio hazardous materials handled by the company.

### II. SCOPE

This procedure applies to all company sites and vehicles.

### III. COMMENT

The Training Director is responsible for ensuring that the procedures for handling, storing and disposal Bio hazardous materials are in place and followed.

#### Storage

Proper storage of all supplies enhances site appearance.

The proper storage of Bio Hazardous Materials is vital to the health and Safety of all Employees and protection of the environment.

#### Warning Labels

After determining which materials are potentially hazardous, the producer or importer will label the container with the appropriate information before it leaves his/her facility for transport to an end user or processor. If the material is transferred to another container, that container must be labeled with the identity of the material and the appropriate hazard warnings.

#### Training

Employees must be trained on the contents of the written Bio Hazardous Materials Program.

### Written Program

Describes how the company will ensure the appropriate storage, handling and labeling of Bio Hazardous Materials. Describes how and where the Bio Hazardous materials will be disposed of. A copy of the written program will be made available upon request.

### Supervisor Responsibility

It is your supervisor's responsibility to ensure that you follow this procedure and that you are informed of Biohazards in your work area.

## IV. STORAGE / LABELING / HANDLING / TRANSPORTATION

- All contaminated waste is to be handled with personal protection against skin contact. Each deposit of Bio- Hazard Waste is to be sealed in a "Red Bag" and placed in a "Red Bag" lined biohazard cardboard box at each station. Sharps boxes, when "full", shall be shut and taped and deposited as stated previously.
- When preparing biohazard Waste for transportation, the cardboard box shall be taped with a non-porous packing tape that is provided. The box's bottom and top joints shall be taped as to make it leak resistant. Crews will prepare the waste when appropriate and the company runner will transport the waste to the storing facility.
- Prior to placing the box in the biohazard Waste Dumpster the following information shall be written on the box: date, station, and unit number and crew name that packaged and transported the biohazard box.
- On arrival at the storing facility, the crew may obtain a key to the red biohazard Dumpster. Place the **sealed** cardboard box inside and lock it.
- Never leave or discard biohazard Material in a place that is not for handling biohazard Materials. Never place non-contaminated trash in a Sharps container or in a "red bag".
- Kanawha County Ambulance pays for the disposal of biohazard Material by the pound.
- Replacement boxes are obtained from the Material Control Officer.

**SITE SAFETY**

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## **HOUSEKEEPING Guidelines**

### **General rules**

- Each employee is responsible for cleaning up any "MESS" that he/she may make.
- After eating, employees will insure that dishes and utensils are washed and stored in the proper place. No dishes or utensils are to be left in the sink or on counters.
- After being read, periodicals are to be stored neatly in their proper storage area, they are not to be left in open areas of workstations.
- At the end of each shift, the employee going off duty is responsible for insuring that his/her work area is neat and clean.
- When beginning their tour of duty, every employee should inspect their area for cleanliness; this will include the kitchen and bathroom area. Any area that doesn't meet the oncoming crews' approval should be mentioned to the off going crew for action, failure to do so makes the cleaning of the area the responsibility of the oncoming crew.

### **Office Areas**

Office areas are to be kept neat and orderly. The following general rules apply to prevent injuries and maintain a professional appearance.

- All aisles, emergency exits, fire extinguishers, etc., will be kept clear (a minimum of three feet of either side) of material storage (temporary and permanent) at all times.
- Storage areas will be maintained orderly at all times. When supplies are received, the supplies will be stored properly.
- Spills will be cleaned-up immediately and wastes disposed of properly.
- All waste receptacles will be lined with a plastic trash bag to avoid direct contact while handling. custodial employees will use rubber gloves and compaction bar when handling wastes.

- Keep file and desk drawers closed when not attended and being used to avoid injuries. Open only one drawer at a time to prevent tipping of file cabinets.
- At the end of the business day, turn off all office equipment (area heaters, lamps, coffee maker, PCs, etc.) and lights to save energy and prevent fires. All space heaters are to be un-plugged at the end of the day to assure they have been turned-off.

### **Supply Areas**

Supply areas will be kept neat and orderly, during operations and as follows:

- All aisles, emergency exits, fire extinguishers, safety showers, etc., will be kept clear (a minimum of three feet in front of and to either side) of product storage and material storage at all times.
- Spills will be cleaned up immediately.
- Employees will be responsible to keep aisles and work floors clear of excessive debris and waste materials during work hours. All Employees are responsible to communicate slippery floors to supervision for immediate clean-up.
- All refuse and waste materials will be placed in the recognized waste containers for disposal.

### **Garage / Maintenance Areas**

- All aisles, emergency exits, fire extinguishers, safety showers, etc., will be kept clear (a minimum of three feet of either side) of material storage (temporary and permanent) at all times.
- Storage Areas will be maintained orderly at all times:
  - Wood stock is to be stacked away from ignition source.
  - Batteries are to be stored on metal shelving away from ignition sources.
- All fittings, etc., stored in bins on shelves and sorted by type and use.
- Sawdust is to be cleaned up daily.
- All flammables stored in OSHA-approved fire cabinets and self-closing cans where necessary.

- Spills will be cleaned-up immediately by the person responsible and wastes disposed properly.
- All refuse and waste materials will be placed in the recognized waste containers for disposal.

### **Grounds**

The grounds surrounding the company are an extension of the work place. Grounds that are kept neat and orderly show pride by the company for Employees, customers and neighbors to enjoy.

The following general rules will apply:

- All trash will be discarded only in the waste containers provided.
- Waste container lids will remain closed when not being utilized.
- Park only in the designated assigned area.
- The Maintenance Department will be responsible for grounds keeping (mowing, trimming, etc.) as needed. Maintenance will also establish procedures for ice/snow removal, when necessary, prior to operations each day.
- All potential hazards will be identified and secured in accordance with the KCEAA Safety Program guidelines as soon as possible.

## **FIRE PROTECTION Guidelines and Procedures**

### **Smoke Alarms**

- Smoke alarms are strategically located throughout KCEAA premises and are to be tested quarterly and documented.
- Smoke alarms are to be located in every company kitchen.
- Smoke alarms are to be located in common areas of all company sleeping quarters.

### **Smoke Alarm Inspections**

- Routine quarterly inspections shall be performed and documented.
  1. Check the test button. Change battery if needed.
  2. Battery shall be changed biannually (when we change the time)

### **Alarm Notification**

If the smoke detectors activate or smoke / fire present:

#### ***Do not put yourself in danger***

1. INVESTIGATE: Look for the source of smoke and or fire. If you find the source and you may do so without harming yourself, proceed to step 2.
2. EXTINGUISH: Using the appropriate means, put the fire out if possible. There are fire extinguishers in strategic locations throughout the premises.
3. EVACUATE: If you are unable to find and extinguish the fire, evacuate the building immediately.
4. CALL THE FIRE DEPARTMENT

Please make sure that all doors remain closed at all times.

## **General Information**

- Any trace of smoke or fire...

### ***FOLLOW YOUR DEPARTMENT PROCEDURE!!!***

- Even if the fire has been extinguished, follow your Emergency Procedure, but notify the Fire department that the fire is believed to be out. Have them proceed in and check it.
- The implementation of this procedure requires the best judgment of the personal involved; no one will be reprimanded for over-reacting in this situation. It is much better to have firefighting apparatus on the road than to endanger personnel and risk the possibility of losing life or property.
- The Department Supervisor is to be notified as soon as possible of the situation.
- The Communications center has a specific fire plan in place and the plan will supercede this procedure. Refer to the Comm Center Operating Procedures section 601.
- During off-hours, the Communicator shall take whatever action is deemed necessary to insure the safety of the operating personnel and visitors, within the Emergency Operations Center, during the emergency.

## **Fire Extinguishers**

- Fire extinguishers are strategically located throughout KCEAA premises and are to be inspected quarterly and documented.
- Fire extinguishers are to be located in every company station.
- Fire extinguishers are to be located in every company garage.
- Fire extinguishers are to be located at every company fueling facility.

## **Fire Extinguisher Inspections**

- Annual inspections conducted by a contracted fire service provider are documented on the tags on the fire extinguisher.
- A contracted fire service provider conducts hydrostatic tests every 5 years.

**KCEAA Fire Protection Checklist**

**Department/Station** \_\_\_\_\_

Date \_\_\_\_\_

Name \_\_\_\_\_

Fire extinguishers

1. Extinguisher is in proper place.
2. Visibility of extinguisher is not obstructed and is easily accessible
3. Extinguisher has no obvious physical damage, corrosion, cracked hose or clogged nozzle.
4. Extinguisher mount is stable.
5. Extinguisher seal is intact.
6. Extinguisher inspection tag is up to date.
7. Extinguisher pressure reading is full.
8. If there are any deficiencies correct or submit a work order.

Smoke / CO detectors / alarms

1. Alarm is in proper place.
2. Test alarm for functionality.
3. If alarm does not function properly, replace battery or submit a work order.

Comments

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## TYPES OF FIRE

### Class A

- Composed of  
Wood  
Paper  
Cloth  
Etc.
- Best Extinguisher - Water

### Class B

- Composed of  
Flammable Liquids  
Flammable Gases  
Grease
- Best Extinguishers - Dry Powder or Carbon Dioxide.

### Class C

- Composed of  
Electrical Equipment
- Best Extinguishers - Remove power source, Carbon Dioxide, and Dry Powder.

### Class D

- Composed of  
Burning Metals
- Best Extinguisher - Dry Compound, fire prevention, proper storage & handling of flammable/combustible materials.

## **FIREARMS AND DANGEROUS WEAPONS POLICY**

A firearms and dangerous weapons policy is addressed in the Company Personnel Manual.

Failure to comply with this policy will result in disciplinary action up to and including termination.

- Weapons are not permitted within KCEAA grounds with the exception of those carried by visiting law enforcement units.

## **OFFICES / CLERICAL Guidelines**

### **Housekeeping**

A critical aspect of office safety is housekeeping and storage of office materials and supplies.

Housekeeping covers:

- Trash removal, recycling
- Destruction of discarded sensitive company information
- Office maintenance
- Office storage
- Prompt cleanup of spills.

### **Material Storage**

Material storage programs are established to maintain office materials for the convenience of the users, purchasing efficiency and fire prevention. Clean, well-lighted and maintained storage areas will prevent serious injury and costly property damage. Employee training and periodic inspections will ensure that safe material handling and storage is maintained.

The following general procedures are to be followed:

- Shelf storage should be used for office supplies
- Paper products and flammable materials should not be stored in HVAC closets or electrical rooms or any room with a pilot light or flame.
- Materials should not be stored within three feet of exits/emergency equipment or within 18 inches of ceilings/sprinkler heads
- Heavy items, such as, cartons of office supplies and boxes of paper should be broken-down to individual reams and stored at waist level.
- Commonly used items, like pens, paper clips and staples are stored at chest to eye level.
- Proper step stools or ladders should be provided to reach items stored overhead or out of reach.
- For convenience and safe handling, material should be stored near areas of use.

- Assistance when lifting bulky/heavy items, using handcarts or dollies when possible.
- Employees should be trained to lift with their legs keeping a straight back while holding bundles close to their center of gravity. Carrying small loads close to the body and below chest level will reduce chances of slips and falls.
- New materials should be properly stored as soon as possible after arrival.
- Receiving areas for office supplies should be designed to allow placement of goods from shippers on a low counter or table. From this area they may be unpacked and re-distributed in smaller, lighter parcels. This also prevents bending to lift objects off the floor.

### **Electrical safety**

A common occurrence is some office work areas have only one or two poorly placed outlets. The result is overloaded circuits and use of extension cords. Hazards in this situation would include fire, electric shocks, trips and falls.

Office electrical safety includes:

- Adding convenient outlets
- Use of fixed power strips with ground fault circuit and circuit overload interrupters in place of extension cords
- Replacing worn or broken power cords and outlets
- Never running power cords under carpet or chair pads
- Replacing two prong outlets with three prong outlets that contain a ground connection
- Confirm that outlets are in correct working order by means of an outlet circuit tester
- Polarity-all connections are correct (ground, hot, neutral)
- Continuity-line and load are correct (GFCI will not trip)

## **Environmental Control and Quality**

Environmental Control and Quality programs are designed for employee comfort and removal of indoor air pollutants. Office environments that become too cold or too hot along with other factors such as cigarette smoke, dusts, odors and stagnation, places physical and psychological stress on the employee which reduces efficiency. Other problems associated with poor climate and air quality control include illness, increased employee turnover, and employee complaints.

**Sources** of indoor air pollution include:

- Cigarette smoke
- Carbon monoxide from: furnaces, fueled heaters, parking lots
- Fibers from fire retardant and insulation
- Formaldehyde from carpet adhesives, furniture bindings, construction material
- Radon gas through bricks and cement
- Organic chemicals from: copier fluids, paints, inks, paper
- Microorganisms from: people, plants, condensed water in air conditioners
- Pollens, allergens and dusts

**Symptoms** of poor Environmental Control and Quality are:

- Stuffiness
- Dizziness
- Headaches
- Hot flashes/chills
- Upper respiratory irritation
- Fatigue
- Itches/rashes

## **Recommendations** for Environmental Quality

- Maintaining an environment near 75 degrees Fahrenheit year-round is comfortable for most employees.
- Employees should be instructed to add or remove outer layers of clothing for their personal comfort.
- Air quality can be controlled with good ventilation.
- The best solution to indoor air pollution is increased fresh air.
- Other solutions include removal of the offending problem or increasing ventilation around them.
- Monthly replacement of air filters on climate control systems.
- Ducts should be checked and cleaned when necessary.

**Ergonomics** of workstations are also known as human factors engineering, ergonomics is used to fit tasks to humans.

Visual Display Terminals (VDTs) and use of Personal Computers (PCs) along with workstation design and layout must be considered.

VDTs and PCs stress the eyes, head, neck, shoulders, arms, hands, and back. The root of the problem is that the work causes the body to move in uncommon motions. VDT and PC use strains the eyes when glare from artificial and natural light is reflected off of the screen. High and low color contrasts of print versus background also cause the eyes to work "overtime". Color monitors or amber print over a brown background reduces eyestrain and the monitor should be positioned away from windows and direct lighting to remove glare. Employees should have annual eye examinations and may be required to wear special glasses designed for VDT/PC use.

Solutions for ergonomics

The neck, back, shoulders, arms and hands are affected by the position of the workstation and office machines relative to the body.

- The key board should be at waist level
- The monitor at eye level or lower
- The chair adjusted so that the employee's feet rest flat on the ground and back support is maintained.

- Uses of under-desk footrests are also recommended to allow the employee to shift their posture during a work cycle.
- Chairs should be designed so that the knees are not below the hip joint. This prevents stress to the lower back and also eliminates excessive pressure on the lower thigh behind the knee, which can reduce blood flow to the lower leg.
- Adjustable VDT/PC desks and monitor stands and training should be provided for employees.
- To relieve mental and physical fatigue, periodic breaks and rest periods or job rotation would be appropriate.
- Other ergonomic designs may be used to remove physical stresses. Bringing the work closer to the employee and reducing the amount of reaching, bending, and routine hand/wrist movements will remove problems with fatigue and musculo-skeletal strains.

## **MAINTENANCE / CONSTRUCTION Guidelines**

### **Accident Prevention Signs, Tags, Barricades, Caution Tape**

#### Signs

Signs are posted to warn workers and visitors of potential hazards in the work area.

- Should be slightly above eye level, readily visible day and night, and not create an additional hazard.
- Shall be placed sufficiently ahead of the hazards to allow anyone coming into view of the sign to have time to heed the warning before encountering the hazard.

#### *Sign color codes*

- Danger signs are red, black, and white and indicate immediate danger and that special precautions are necessary.
- Caution signs are yellow and black. These are used to indicate a possible hazard against which proper precaution should be taken.
- Safety instruction signs are green, white and black and are used where there is a need for general instructions and suggestions relative to safety measures.
- Notice signs are blue and white and provide general information.
- Traffic signs will be consistent with WV and US Highway guidelines.

#### Tags

- Tags are used to prevent accidental injury or illness to employees who are exposed to hazardous or potentially hazardous conditions, equipment, or operations that are out of the ordinary, unexpected, or not readily apparent.
- Tags shall be used until such time as the hazard is eliminated or the hazardous operation is completed.

#### *Tag Use*

- Tags shall be attached to the device in question or on the warning tape.
- The person or department responsible for placing a warning tag is responsible for removing the tag when the job is complete, the hazard has been eliminated, or the tag is no longer needed due to a change in regulation.

### *Tag Types*

- Danger tags shall be used in major hazard situations where an immediate hazard presents a threat of death or serious injury to employees.
- Caution tags shall be used in minor hazard situations where a non-immediate or potential hazard or unsafe practice presents a lesser threat of employee injury.
- Warning tags may be used to represent a hazard level between “Caution” and “Danger”.

### Caution Tape

Should be used to designate an area where a potential hazard exists.

- Mark a spill or leak
- Indicate areas of overhead work
- Call attention to broken or rough pavement
- A Barrier Hazard Identification tag indicating the reason for the caution tape must be attached to the tape at least every 25 feet. The tag must have the name of the person and department that had it installed.
- No one should go into an area that has been roped off with caution tape unless they are fully aware of the hazards involved and take appropriate action to ensure their safety. This means that you must read the Barrier Hazard Identification tag before crossing into any taped off area and follow up with the contact person if more information is needed.
- The placement of caution tape shall not create a tripping hazard.
- Caution tape shall be placed 36-43 inches above grade so it can be easily seen.
- Caution tape must be placed far enough from the hazard to prevent accidental injury or incident to passersby.
- Caution Tape must be properly installed and maintained to be effective.
- Caution Tape must completely surround the hazard.
- Caution Tape must be repaired or replaced if it is torn or broken.
- When the Caution tape is no longer needed, it must be completely removed from the work area. No dangling pieces left behind.

## Barricades

Barricades are rigid physical barriers used to stop the traffic of personnel through a hazardous area.

- Barricades are required around any temporary floor, platform, or walkway opening, or other such conditions when unattended.
- Floor openings are defined as any opening measuring more than 12 inches on its smallest side in any floor or walking surface. A wall opening is any opening that is at least 30 inches high and 18 inches wide through, which a person could fall.
- Barricades are required around excavations to prevent personnel from falling into them. Warning lights may also need to be added to the physical barrier.
- Warning lights are required around excavations in or near roadways and unlighted walkways.
- Must be built to the appropriate standards.
- Must have a Barrier Hazard Identification tag attached to indicate the purpose of the barricade, the responsible department, and the contact person.
- If a fall potential requiring fall protection exists, the barricade must either meet the requirements for fixed fall protection or the employees exposed to the fall hazard must use personal fall arrest systems.

## **Personal Protective Equipment**

The employee at cost must purchase replacement for mandatory personal protective equipment, which has been purposely destroyed or lost. The employee can choose to purchase personal protective equipment through KCEAA at a reduced cost.

### Foot protection

All persons assigned to the maintenance department and garage must wear steel-toed safety boots on the job. Boots may be purchased through the regular KCEAA uniform policy.

### Eye protection

All persons assigned to the maintenance department or garage must have eye protection on when performing work, which presents abnormal hazards to the eyes, including but not limited to:

- pouring chemicals
- using power tools
- using a striking device on metal to metal

### Hearing protection

If the potential for high levels of noise may become present, employees must have hearing protection available. Earplugs are available at all KCEAA locations. All persons assigned to maintenance and the garage must have hearing protection on their person

### *Standards*

The OSHA noise standard limits the amount of exposure to noise to **90 decibels averaged over an 8-hour day**. This means the louder the noise; the less time workers can be exposed. All work areas that might be over 85 dB must be measured for noise. If noise levels are above 90 dB, the employer must take steps to bring down noise levels. The employer must try to reduce noise below 90 dB before relying on earplugs or other personal equipment. If exposure to noise averages above 85 dB for a shift, the employer must have a **hearing conservation program**. This includes providing workers with hearing tests and hearing protection.

## Hand Protection

- Gloves are to be worn when the potential exists for injury to the hand by contamination due to material composition or material construction.
- Follow manufactures recommendations on glove selection when working with hand/power tools.
- Leather gloves should be worn when handling debris and trash.
- Follow MSDS recommendations for glove selection when handling chemicals.
- Proper BSI with glove use is part of the State Medical Protocols.

## **Elevated Work**

Employees shall not perform work on platforms or areas without fixed fall protection within 10 feet of the edge that is over 10 feet from grade off of the ground with out being tied off by an NFPA approved harness devise.

### Ladders

- KCEAA employees shall use only ladders purchased by the company on KCEAA property.
- The user prior to use shall inspect each ladder. If a deficiency is found, the ladder is to be tagged defective and their supervisor is to be notified.
- Only fiberglass or wooden ladders shall be used when working with electricity.
- No ladder shall touch electric lines when in use.
- Ladders shall be placed only on fixed horizontal surfaces.
- A ladder that extends into any travel path must be barricaded with warning signs or personally guarded.
- All ladders in use shall either be tied off or held by a second person.
- No ladders will be painted. This is to be able to inspect them for deficiencies.
- Ladders shall be stored horizontally when not in use.

### Scaffolds

- Scaffolds are to be used only by properly trained and certified employees.

## **Maintenance, Garage, and Pumping Areas**

### Garage Facilities

- Poorly ventilated garages allow carbon monoxide and other harmful vehicle exhaust to build up when truck and equipment motors idle in the facility. Short-term exposure to carbon monoxide can cause fatigue and irritability, while long-term exposure may cause circulatory problems and increase the likelihood of heart problems.
- To protect workers from carbon monoxide exposure, management should maintain adequate ventilation of garage facilities. Hoses that exhaust directly outside or are connected to mechanical ventilation should be connected to the tailpipes of vehicles. Management should make sure that vent pipes for underground gas tanks are located so vapors do not enter doors or windows.
- All jacks and hoist equipment should be checked at regular intervals. Management should also institute a regular procedure for securing, blocking or cribbing vehicles on jacks.

### Maintenance Shops

- Skilled maintenance workers risk injury from a variety of chemical exposures in and out of the shop.
- Paints, thinners and other volatile material should be stored in Underwriters Laboratory (UL) approved storage cabinets. Storage rooms must have explosion-proof lights and ventilation with a minimum of six air changes per hour. Paint thinners and solvents should be stored in fire-resistant safety containers; proper containers should have clear labels, flash screens and self-closing lids.
- To protect workers from vapors and to prevent fires, all flammable liquids must be kept in closed containers when not in use as well as tanks and pans used for cleaning parts.
- Oily shop rags and paint rags should also be stored in specially marked safety containers and disposed of regularly.

- Compressed air equipment can be extremely dangerous; compressed air can cause harm if it enters cuts or skin openings. Management should properly guard all rotating pulleys and belts on compressor motors. All air tanks must meet A.S.M.E. (American Society of Mechanical Engineers) Code (Boiler and Pressure Vessel Code Section VIII Division I) and have adequate safety relief valves.

### **Safety rules for operating machines and equipment**

- Machine guards must be in place while machines are in operation.
- Loose clothing, jewelry or rings must be removed before operating machinery.
- You must have eye protection to start the job.
- Your supervisor will issue required personal protective equipment, except for prescription glasses to you.

## **HAZARDOUS MATERIALS**

<b><i>I.</i></b>	<b><i><u>USE OF MSDS (Material Safety Data Sheets)</u></i></b>	<b><i>46</i></b>
<b><i>II.</i></b>	<b><i><u>HAZARDOUS CHEMICAL SAFETY Guidelines</u></i></b>	<b><i>47</i></b>
<b><i>III.</i></b>	<b><i><u>HAZARDOUS WASTE DISPOSAL Guidelines</u></i></b>	<b><i>53</i></b>
<b><i>IV.</i></b>	<b><i><u>HAZARDOUS CHEMICALS COMMUNICATIONS Guidelines</u></i></b>	<b><i>54</i></b>

## *MSDS (Material Safety Data Sheets)*

### **For MSDS use to be effective, employees must:**

- Know the location of the MSDS
- Understand the major points for each chemical
- Check MSDS when more information is needed or questions arise
- Be able to quickly locate the emergency information on the MSDS
- Follow the safety practices provided on the MSDS

*The chemical manufacturer to provide additional information concerning safe use of the product provides Material Safety Data Sheets.*

Each MSDS provides:

- Common Name and Chemical Name of the material
- MSDS are supplied by the producer or importer
- Name, address and phone number of the manufacturer
- Emergency phone numbers for immediate hazard information
- Date the MSDS was last updated
- Listing of hazardous ingredients
- Chemical hazards of the material
- Information for identification of chemical and physical properties

## **HAZARDOUS CHEMICAL MATERIALS SAFETY Guidelines**

The Hazardous Chemical Materials Program is intended to ensure that employees know the hazards of chemicals that are present in the work area and how to protect themselves and environment from those hazards.

The Occupational Safety and Health Administration (OSHA) standard 29 CFR 1910.1200 Hazard Communication is commonly referred to as the Right-to-Know Law. This standard says that employees have the right to know about chemical hazards in their work areas.

If a single study indicates that a material may have a harmful health effect that is sufficient to classify the material as a potential health hazard.

### I. PURPOSE

To provide and ensure proper storage, handling, disposal, identification and labeling of hazardous chemical materials used by the company.

### II. SCOPE

This procedure applies to all company sites and vehicles.

### III. COMMENT

The Purchasing Director is responsible for ensuring that the procedures for handling and storing hazardous chemical materials are in place and followed.

### Storage

Proper storage of all supplies enhances site appearance.

The proper storage of hazardous chemical materials is vital to the health and Safety of all Employees and protection of the environment.

### Warning Labels

After determining which chemicals are potentially hazardous, the producer or importer will label the container with the appropriate information before it leaves his/her facility for transport to an end user or processor. If the material is transferred to another container, that container must be labeled with the identity of the material and the appropriate hazard warnings. An exception exists for portable containers intended for immediate, personal use. These containers do not have to be labeled; however, it is not recommended to have unlabeled containers in the work area. Other warning devices such as signs, process sheets, operating procedures, etc. may be used to alert workers to chemical hazards in stationary process containers. Since warning labels are so important to maintaining employee safety, they must be replaced if defaced or removed.

### Training

Employees must be trained on the contents of the written Hazardous Chemical Materials Program.

### Supervisor Responsibility

It is your supervisor's responsibility to ensure that you know where to find MSDS and that you are informed of chemical hazards in your work area.

### **EACH EMPLOYEE MUST .....**

***~ Be alert to warning signs and labels***

***~ Follow procedures for safely handling hazardous chemical materials***

#### IV. STORAGE / LABELING / HANDLING / TRANSPORTATION

- All hazardous chemical materials must be stored in clearly marked and controlled safety storage areas.
- All hazardous chemical materials on company premises must be maintained showing the name, quantity, location, and person responsible for the material.
- All containers of hazardous chemical materials must be labeled properly and include the following information, per Sections 5227 and 5228 of the General Industry Safety Orders:
  1. Identity of the material.
  2. Appropriate hazard warnings.
  3. Name & address of producer/importer
  4. Instructions in case of over exposure. (Reference original container or MSDS.)
- Suppliers must provide MSDS that identify hazardous, precautions, emergency procedures, etc., for each hazardous chemical material purchased.
- Flammable materials must be stored in an approved flammable storage cabinet.
- Smoking is not allowed inside any building or in any area where flammable materials are handled.
- At areas where flammable materials are being transferred handled, drawn or dispensed, sources of ignition must be eliminated and containers must be grounded.
- Electrical equipment and wiring in the safety storage area where flammable materials are stored and handled must strictly adhere to the National Electric Code.

- Employees responsible for the maintenance of the safety storage area where flammable and combustible materials are stored must follow established procedures to control leakage and prevent the accidental escape of those liquids. Spills must be cleaned up promptly.
- Arrangement for the disposal of waste materials will be contracted.
- Combustible waste materials and residues in operating area must be stored in metal containers in compliance to contract procedures.
- All oil spills will be cleaned up by absorption and solid disposal, placed in an appropriate container and disposed of by a designated contractor.
- Soiled oil rags are to be stored in an approved metal container.
- Vehicle batteries are to be stored in a central location away from heat and fire ignition sources.

### **Compressed Gas Cylinders**

- Compressed Gas Cylinders are to be hydrostatically tested by the supplier.
- Great care must be exercised in the handling of compressed gas and O<sub>2</sub> cylinders.
- They must never be dropped or banged together.
- They must be stored inside, upright in well-ventilated area away from any source of heat, oil or exposed electrical wiring.
- A chain or other suitable means to prevent tumbling must secure them.
- Steel protective caps are to be screwed down to the last thread, except in use.
- Never leave a cylinder in a standing upright position without being secure.

- Physical movement of “D” cylinders is to be done by securing to a hand truck.
- All full cylinders are to be stored in a cage.
- All empty cylinders are to be stored separate from full cylinders, labeled as “empty” and given the same consideration as a full cylinder.
- A cascade system will be used to fill portable O2 cylinders. The portable cylinder will be secured and partially submersed in water during filling.
- Oxygen cylinders are to be stored at least 20 feet from other type flammable cylinders.

### **Transportation**

- The company will operate within the guidelines of D.O.T. Title 49 CFR.
- The driver will be responsible for the safe securing and delivery and all hazardous chemicals in his/her vehicle and compliance with this procedure.
- The driver will have a written list of all hazardous chemical materials in his/her vehicle.
- All vehicles used to deliver hazardous chemical materials will be equipped with a spill kit and fire extinguisher.
- The driver will ensure that all hazardous chemical materials delivered to sub-stations will be properly and safely stored in designated storage area.
- All cylinders will be secured during transit.
- All “D” cylinders will be secured per this procedure upon delivery to the sub-stations.
- No smoking will be allowed in vehicles carrying hazardous chemical materials.

- In the event of an accident, the driver will notify his/her Supervisor immediately for another vehicle to offload its contents.

**HAZARDOUS WASTE DISPOSAL Guidelines**

**HAZARDOUS CHEMICALS COMMUNICATION Guidelines**

**Uniform Labeling System with NFPA Chemical Container Markings**

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**HEALTH HAZARD - BLUE**

- 4 - Deadly
- 3 - Extreme Danger
- 2 - Hazardous
- 1 - Normal Material

**FIRE HAZARDS- RED**

- Flash Points
- 4 - Below 73<sup>0</sup> F
  - 3 - Below 100<sup>0</sup> F
  - 2 - Above 200<sup>0</sup> F
  - 1 - Will Not Burn

**SPECIFIC HAZARD - WHITE**

- OXY - Oxidizer
- ACID - Acid
- ALK - Alkali
- CORR - Corrosive change
- W - Use No Water
-  - Radiation Hazard

**REACTIVITY - YELLOW**

- 4 - May Detonate
- 3 - Shock or heat may cause detonation
- 2 - Violent chemical
- 1 - Unstable if heated
- 0 - Stable

## EXHIBIT 1

### **HEALTH HAZARDS**

#### CARCINOGENS

A cancer-causing agent as determined by evaluations done by independent agencies identified by OSHA

#### IRRITANTS

Irritants are chemicals that cause a reversible, inflammatory effect at the point of contact.

#### SENSITIZERS

Sensitizers are chemicals that will cause an allergic reaction in a substantial percentage of the population.

#### CORROSIVES

Chemicals, which cause irreversible damage to skin or tissue

#### TOXIC

A chemical determined to be lethal through ingestion, inhalation or absorption in laboratory test animals.

#### HIGHLY TOXIC

Highly toxic chemicals are those that require lower concentrations to achieve toxic results

#### TARGET ORGANS

Chemicals, which affect specific organs instead of the whole body.

## **PHYSICAL HAZARDS**

### **COMBUSTIBLE**

A substance with a flash point exceeding 100 degrees F.

### **COMPRESSED GASES**

A gas or mixture of gases exerting pressure within a container

### **EXPLOSIVES**

Explosives may produce a sudden release of pressure, gas, and heat due to sudden shock, pressure or high temperature.

### **FLAMMABLE SUBSTANCES**

Substances with a flash point below 100 degrees F.

### **ORGANIC PEROXIDES**

Organic peroxides are substances, which are highly combustible, flammable, explosive or unstable.

### **UNSTABLE SUBSTANCES**

Substances, which will vigorously react to shock, temperature or pressure

### **WATER REACTIVE**

Substances that react with water to produce a gas that is flammable or presents a health hazard

## EXHIBIT 2

*Here are some basic principles in storing chemicals*

- Know what your chemicals are, what their hazards are, and their incompatibilities.
- Know what quantities you have. Maintain that inventory list. Read the MSDS for storage information.
- Know your local regulations for storage of chemicals. Check with the fire department for guidelines. Sometimes flammables are heavily regulated.
- Set aside storage space for chemicals. It should be well ventilated, cool and not subject to direct sunlight (like a window that faces the sun at a certain time of day or year). Do not store chemicals in a corridor or on an exit path from the room.
- Store liquids and solid in separate areas.
- Do not allow mixing or transfer of chemicals in the storage area.
- Store the chemicals in considered amounts; do not have too much on hand if it is not necessary. Enough to last several months is something to aim for.
- Never use food containers for storing chemicals.
- Keep the chemicals in tightly closed, unbreakable containers (the ones they came in if possible). Store glass containers so they are unlikely to be broken.
- Return chemical containers to their proper storage area after use. Clean as you go.
- Label everything clearly and correctly, using permanent markers or plastic labels.
- Have the chemicals at a good height to pick up and reach for, not too low and not too high. Best is below eye level.

- Be aware of mixing incompatible chemicals, such as acids and cyanides that can release lethal hydrogen cyanide gas, or ammonia and bleach, which if mixed can create toxic and deadly chlorine gas. Separate such materials.
- Store acids separately from the other chemicals and flammables and preferably some distance away. Store nitric acid slightly apart from the other acids.
- Store flammable solvents in a proper fireproof cabinet, stored according to the local regulations.

### **Incompatible Chemicals**

It is very important that you do not store chemicals near each other that when placed together can spontaneously burst into flames, emit toxic or totally lethal gases, explode, poison you or otherwise do bad things because you put them next to each other. So, when you store chemicals you had better take notice of their type, how you have stored them, what the venting is like, and very important: are they incompatible? In general it is suggested that you store the chemicals according to "hazard classes." You will no doubt be glad to note that the average jewelry workshop does not have to deal with the hundreds of chemicals that are the norm for chemistry labs to have on hand. The major classes of chemicals in terms of storage are:

Acids, bases, flammables, oxidizers, water-reactive chemicals, pyrophoric substances (catch on fire when in contact with air); light-sensitive chemicals, peroxide-forming chemicals (they make their own explosives), toxic compounds, carcinogens and teratogens (cause birth defects and cell mutations).

If you see the following terms in a chemical's name, realize that these terms are linked with chemicals that have the potential to be explosive: *acetylide, hypohalite, amine oxide, nitrate, azide, nitrite, chlorate, nitro, diazo, nitroso, diazonium, ononide, fulminate, perchlorate, N-halomine, peroxide, hydroperoxide, and picrate. Common materials known to be shock-sensitive and explosive (can detonate when touched) include: ammonium perchlorate, ammonium nitrate, copper acetylide, dinitrotoluene, fulminate of mercury, lead azide, nitroglycerine, dry picric acid, trinitrotoluene and dried crystals of perchloric acid.*

Do not store the following chemicals next to, or bring them in contact with, each other. Some reactions are slow and others very rapid. There are, of course, other incompatible mixtures possible; the following page is an example.

Acetic acid:	ethylene glycol, nitric acid, peroxides, bases, carbonates, hydroxides, metals, oxidizers
Acetone:	concentrated sulfuric and nitric acid mixtures
Acetylene:	chlorine, copper, mercury, silver (forms explosive acetylides with longer exposure)
Alkalis:	alcohols, ketones, acids, halogens, hydrogen, plastics, sodium chloride, sulfur
Anhydrous Ammonia:	mercury, chlorine, iodine, acids, halogens, oxidizers, plastics, sulfur
Chlorates:	ammonium salts, acids, metal powders, sulfur, combustible materials
Chlorine	ammonia, acetylene, hydrocarbons, hydrogen, turpentine, finely divided metals, alcohols, hydrogen peroxide, iodine, metals, sodium hydroxide
Copper	acetylene, hydrogen peroxide, calcium, hydrocarbons, oxidizers
Cyanides	Acid
Flammable liquids	ammonium nitrate, hydrogen peroxide, nitric acid, halogens, alcohols, ammonia, ketones
Hydrofluoric acid	aqueous or anhydrous ammonia
Hydrogen Peroxide	copper, chromium, iron, most metals or their salts, alcohols, acetone, organic materials, flammable liquids, oxidizing gases
Hydrogen sulfide	fuming nitric acid, oxidizing gases
Iodine	acetylene, ammonia, hydrogen
Mercury	acetylene, ammonia
Nitrates	sulfuric acid, acids, reducing agents
Nitric acid	acetic acid, cyanides, hydrogen sulfide, flammable liquids, flammable gases
Oxygen	oils, grease, hydrogen, flammable liquids, solids or gases
Potassium Chlorate	Acids
Potassium permanganate	glycerin, ethylene glycol, sulfuric acid
Selenides	reducing agents
Silver	acetylene, oxalic acid, tartaric acid, ammonium compounds
Sulfides	Acids
Sulfuric acid	potassium chlorate, potassium perchlorate, potassium permanganate