

ZONE MAINTENANCE SHOP

The function of the Zone Maintenance Shop on campus is to provide preventative maintenance on mechanical equipment in the buildings on Main Campus, South Campus, Remington Campus and Foothills Campus. The maintenance includes the following areas of responsibility:

A. HEATING

There are three types of heating: hot water, steam, and gas forced air. These sources of energy are potentially dangerous. The hot water temperature is 180 degrees Fahrenheit and can scald the skin; a steam leak can cause burns; and natural gas is highly combustible. You must be aware of the potential for explosion.

When working on pumps and motors, you will often be working in water. There are boots available, including hip waders that should be worn. After putting on the appropriate gear, be sure to lock out the circuit prior to any work. And, as a safety precaution, carry a meter even after the circuit is dead. There is always a possibility that the pump or motor is still energized. Act on the side of caution. And be aware of the procedures in LOCK OUT/TAG OUT, Chapter 27.

If asbestos is encountered when performing work, discontinue work and report it to your supervisor immediately. Asbestos should not be disturbed. Only qualified, certified personnel may handle asbestos-containing materials.

B. VENTILATION AND ROOF ACCESS

Be familiar with the new procedures concerning ROOF ACCESS and CLEARANCES, Chapter 25 in the Safety Manual). The major concern of working with ventilation is fume hoods, because of their previous contents. Ask lab occupants what chemicals have been sent up the hood. If in doubt or a clear answer is not available, radio the shop supervisor and make him/her aware of the situation. Also contact the Building Proctor. Be familiar with other hoods attached to the ducts.

- ◆ Ventilation work is performed on rooftops, some with restricted access. Always be aware of your body position.
- ◆ If you must bring to the shop any potentially contaminated materials, for instance a fan housing, at the very minimum, run water on it. If decontamination is required, contact Environmental Health Services (EHS) prior to transport or handling for a sample survey.

C. MOTORS

Checking motors and machines belt guards, electrical covers etc. should observe the following guidelines for safety while performing maintenance.

- ◆ When checking any belt, sheave, or pulley, make sure that the fan or motor is turned off and has come to a complete stop before proceeding with the check.
- ◆ Checks of any coupling or shaft can be made only when all pumps and motors are turned off.
- ◆ Turn off the fan before going into a fan chamber to check the coils.
- ◆ Filters may be checked in their chamber or fan unit while fan is running. But, if filters are to be changed, the fan must be turned off. This is not only for safety, but also to keep dirt from being blown out of the filters into the building.
- ◆ Replace any fan-belt cover guards. They cannot protect you or your fellow workers if they are not there.

General Safety Procedures

- ◆ Wear goggles when grinding any part.
- ◆ Wear gloves when working with flammables and batteries.
- ◆ Wear goggles when cleaning vacuums.
- ◆ Unplug machines before working on them.
- ◆ Open the shop door for adequate ventilation when spray painting.
- ◆ When using the lift, double-check the hold that the chains have on the machine being lifted.

D. CONFINED SPACE

Zone Maintenance crews at times are required to enter confined spaces in performance of their duties on campus. Please refer to CONFINED SPACE ENTRY PROGRAM , Chapter 18 in the Safety Manual for a detailed description of procedures and restrictions.

E. LIFTING, SLINGING, AND RIGGING PRACTICES

As a worker in Zone Shop, you will be asked to use ropes and slings, hydraulic rigging, “come-alongs,” and block and tackle rigging. After setting up any of this equipment, step back and check to see that it is correct. Avoid any unnecessary hazards. Work efficiently and safely. Do not rush during work.

F. LADDER, LIFT, AND SCAFFOLDING

Zone Maintenance crews are frequently engaged in duties such as re-lamping, accessing motors or mechanical equipment that require using ladders or scaffolding. For maximum employee safety, please refer to LADDER SAFETY PROCEDURES, Chapter 22 in the Safety Manual.

G. CLEANING CHEMICAL SAFETY

The cleaning solutions used in some Zone work (vent cleaning, for example) may contain chemicals that are harmful if splashed in eyes, on skin, or inhaled. When various chemicals are left out carelessly or improperly sealed they pose a threat to employees. Chemicals should be stored at or below eye level; it is important to know what the chemicals are and what to do in case of an accident involving them.

- ◆ Know the nature of the chemicals being used. If you have any questions, talk to your supervisor or refer to the **Material Safety Data Sheets (MSDS)** for chemicals. If chemicals should get splashed in your eyes or on your skin, it is important to know what to do to neutralize the chemical and prevent further harm.
- ◆ Read and know what the warnings on chemical containers stand for and follow the precautions associated with each warning.
 - Danger
 - Warning
 - Caution
 - Hazard
- ◆ Wear protective gear when working with chemicals. Goggles and gloves are the best way to prevent a chemical spill or splash from causing serious bodily harm.
- ◆ Store all chemicals in an approved, clearly labeled, properly sealed container at or below eye level.
- ◆ Do not dispose of a chemical unless you know the procedure required to properly dispose of it and its container. Triple rinse all chemical containers before disposing of them.
- ◆ If a chemical is found in the area and the contents are uncertain, leave it alone. If it has spilled

or is unsealed, do not clean it up, do not put a lid on it, and do not touch it until it has been accurately identified. If you have questions, leave the area immediately and contact your supervisor.

- ♦ If you smell anything suspicious, clear the area, and report the potential hazard to your supervisor immediately. Do not try to figure out what the smell is or what is emitting the odor.

H. PERSONAL PROTECTIVE EQUIPMENT

Zone Maintenance employees are required to wear personal protective equipment (PPE) appropriate to their work site as specified by OSHA. For a detailed explanation of the requirements of this mandate, please refer to Chapter 26 in the Safety Manual.

I. ELECTRICAL SAFETY

For maximum employee safety as a Zone Maintenance crewmember, please refer to LOCK OUT/TAG OUT PROCEDURES (Chapter 27) in the Safety Manual.

J. RE-LAMP AND VENT CLEANING CREW

The re-lamping crew should be familiar with all electrical safety practices that apply. They also need to review the Scaffold Usage section guidelines in PAINT SHOP SAFETY PROCEDURES, Chapter 11 and LADDER SAFETY, Chapter 22.

Workers must be insulated from other conducting surfaces or use adequate protective devices to touch any exposed ungrounded line wire or apparatus. Employees on the vent cleaning crew will also need to use adequate PPE when handling chemicals for cleaning (see part G of this chapter).