



ENVIRONMENTAL HEALTH AND SAFETY
STANDARD OPERATING PROCEDURES

SOP No. 24.01.01.W1.17AR Mobile and Heavy Equipment Management Procedure

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Environmental Health and Safety at WTAMU is composed of two distinct but integrated environmental safety departments that report to the Vice President of Research and Compliance. Academic and Research Environmental Health and Safety (AR-EHS) is responsible for research and academic related compliance, which includes laboratory and academic research and the associated compliance committees. Fire and Life Safety (FLS-EHS) is responsible for fire related compliance and conducts fire and life safety inspections of campus buildings and assists with the testing all fire detection and suppression systems.

Supplements TAMUS Regulation 24.01.01

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## 1. Purpose

This procedure is provided to inform all WTAMU staff, faculty, and students about any workplace hazards associated with mobile equipment and heavy equipment. The procedure develops standard operating procedure to reduce risk to employees, students, and visitors for identified hazards.

## 2. Scope

This procedure applies to all WTAMU staff, faculty, and students that may operate or use mobile equipment or heavy equipment on the WTAMU campus or any WTAMU property.

## 3. Responsibilities

It is the responsibility of all WTAMU staff and faculty to abide by the regulations set forth in this procedure. Any questions or problems should be addressed to the appropriate dean or supervisor. EHS should be contacted in the case of an emergency or when any problems arise.

## 4. General Vehicle Safety

The University Police Department is responsible for regulating moving vehicles and bicycles on university property. To ensure driving safety, follow these driving practices:

- Never drink and drive; driving while under the influence of alcohol or drugs is strictly prohibited.
- Obey all traffic laws, signs, and signals.
- Respond to dangerous driving conditions as appropriate.
- Maintain a safe distance between your car and any car in front of you. Allow at least one car length for each 10 MPH (e.g., three car lengths if you are driving 30 MPH).
- Keep your eyes moving to avoid fatigue, especially if you plan on driving for long periods.
- Always use your turn signal to indicate your intended action.
- Leave yourself an "out" by driving in the lane with a shoulder, driving in the middle lane of a multi-lane road, or following other vehicles at a safe distance.

### **IMPORTANT:**

*All WTAMU employees who operate a motor vehicle for company business (whether a company vehicle, rental vehicle, or personal vehicle) must possess a valid state driver's license for their vehicle's class.*

### 4.1. Defensive Driving

By taking defensive driving courses, employees can promote driving safety and lower their insurance rates. The principles of defensive driving include the following:

- **Knowledge:** Know your vehicle and know the law.
- **Control:** Always maintain control of your vehicle. To improve your control, perform routine vehicle maintenance and respond to road conditions as appropriate.
- **Attitude:** Be willing to obey all laws and be willing to yield to all other vehicles and pedestrians.
- **Reaction:** Respond to driving conditions appropriately. Do not impede your reaction time by driving when tired or under the influence of alcohol or drugs.
- **Observation:** Be aware of potential accidents and take preventive measures. Always try to anticipate the actions of other drivers.
- **Common Sense:** Do not risk your safety to save time. Do not respond to rude or obnoxious drivers by violating traffic laws.

### 4.2. Backing Vehicles

Backing a large vehicle can be very difficult. Try to avoid backing whenever possible. If you must back a vehicle, follow these guidelines:

- Get out of the vehicle and inspect the area you want to back into.
- If possible, have someone outside help guide your vehicle into position.
- If your vehicle does not automatically sound a horn when in reverse, sound the horn once before moving backwards.
- Back slowly and check your mirrors often.

#### 4.3. Accidents

If you are involved in a vehicle accident, follow these guidelines:

- Check for injuries. If anyone is injured, immediately call the police and EMS.
- If there are no injuries, you are blocking traffic, and your car can be driven, move the car to a safe location nearby. (If the accident occurs on a freeway lane, ramp, shoulder, median, or busy metropolitan street, you *must* move your car if it is safe and possible to do so.)

If you cannot move your car, try to warn oncoming traffic to prevent other accidents:

- Raise your hood.
- Turn on your hazard lights.
- Light flares.

Exchange the following information with other drivers involved in the accident:

- Name, address, and phone number.
- Vehicle identification number, license number, and description.
- Insurance information.
- Driver's license number.

Call the police in the following circumstances:

- Someone is injured.
- A car cannot be moved.
- A driver is intoxicated.
- A driver has no insurance.
- A driver leaves the scene of the accident without exchanging information.

### 5. Compressed Natural Gas

Compressed natural gas (CNG) is a plentiful domestic fuel that is very affordable. Seventy cents of natural gas possesses the same amount of energy as one dollar of gasoline. CNG also produces low tailpipe emissions, no evaporative emissions, and low refining energy. Unfortunately, however, CNG requires bulky gas cylinders and higher cost vehicles.

CNG vehicles must be tested and inspected annually for corrosion, pressure, and possible gas leaks.

***NOTE:** Alternative fueled vehicles must be refueled by trained personnel. Employees should not refuel their alternative fueled vehicles themselves.*

**IMPORTANT:**

*Any vehicle greater than 20hp must maintain a 2½-pound, portable, class A-B-C fire extinguisher.*

### 6. Propane

Propane is a by-product of gasoline, but it can also be extracted from natural gas. Propane offers low evaporative emissions and virtually complete combustion.

When filling propane tanks, operators should allow at least 10% free space for gas expansion. Safety valves should also discharge to the atmosphere and not to enclosed spaces.

### 7. Railroad Crossings

Compared with other types of collisions, train/motor vehicle crashes are 11 times more likely to result in a fatality. On the average, there are more train-car fatalities each year than airplane crashes. Unfortunately, driver error is the principal cause of most grade crossing accidents. Many drivers ignore the familiar tracks they cross each day, and some drivers disregard train warning signals and gates.

All public highway-rail grade crossings are marked with one or more of the following warning devices:

- *Advance Warning Signs:* Advance warning signs indicate that a railroad crossing is ahead. These signs are positioned to allow enough room to stop before the train tracks.
- *Pavement Markings:* Pavement markings may be printed on the pavement in front of a crossing. Always stay behind the stop line when waiting for a passing train.

- *Crossbuck Signs:* Railroad crossbuck signs are found at most public crossings. Treat these signs as a yield sign. If there is more than one track, a sign below the crossbuck will indicate the number of tracks at the crossing.
- *Flashing Lights and Gates:* Flashing lights are commonly used with crossbucks and gates. Stop when the lights begin to flash and the gate starts to lower across your lane. Do not attempt to cross the tracks until the gate is raised and the lights stop flashing.

**IMPORTANT:**

*You must stop at least 15 feet from a train track when: (1) warning lights flash; (2) a crossing gate or flagperson signals an approaching train; (3) a train is within 1500 feet of the crossing; or (4) an approaching train is plainly visible and in hazardous proximity.*

Follow these guidelines when you encounter a railroad crossing:

- Always expect a train.
- When approaching a crossing, LOOK, LISTEN, and LIVE.
- Be sure all tracks are clear before you proceed. Remember, due to their large size, it is easy to misjudge the speed and distance of an oncoming train. If you have any doubts, stop and wait for the train to pass.
- Watch for vehicles, such as school buses, that must stop before train tracks.
- Never race a train to a crossing.
- Always stop for flashing lights, bells, and gates. Never drive around a gate. (State law requires pedestrians to stop when a railroad crossing gate is down.)
- Do not allow yourself to be boxed in on a track with cars in front and behind you.
- Never stop on train tracks. If your car stalls on train tracks, call 911 immediately. If a train approaches, abandon the car and run away from the tracks.
- When driving at night, look low to the ground for moving trains. (One third of all train-car collisions occur at night when cars run into moving trains.)
- Watch out for a second oncoming train after the first train has passed.

## **8. Bicycle and Scooter Safety**

### **8.1. Bicycle Safety**

Follow these safety precautions when riding a bicycle:

- Always obey *all* traffic laws.
- Stop at stop signs.
- Ride in the correct direction on one-way streets.
- Stop at railroad tracks when the warning signals are operating.
- When riding with other cyclists, ride single file in traffic.
- When bike lanes are available, use them. If bike lanes are not available, stay as far right as possible on the street pavement. Watch for opening car doors, sewer gratings, debris, etc. Do not ride on sidewalks.
- Use hand signals when turning or changing lanes.
- Wear a helmet that is approved by ANSI or the Snell Memorial Foundation. (Head injuries account for 75% of all cycling fatalities.)
- If riding at night, make sure your bicycle has reflectors on the rear, front, spokes, and pedals. Wear bright, reflective clothing.

### **8.2. Scooter Safety**

The use of three and four wheeled scooters by university personnel presents unique hazards to individuals riding in the vehicles and to pedestrians utilizing sidewalks. The purpose of this policy is to establish driver responsibilities and scooter operation procedures so that accidents and injuries may be prevented. The policies and procedures herein are applicable to all drivers of university scooters.

#### **8.2.1. Scooter Driver Responsibilities:**

- All employees who will operate scooters must be trained in scooter operation and safety rules. Training shall be provided annually by the department supervisor who will follow the operating/safety instructions presented in the Vehicle Operating Manual. Contact the Environmental Health and Safety if assistance in training is required. The supervisor will accompany the new driver on a test drive to ensure that he/she is a competent vehicle operator. All occupants must use all safety equipment available when operating a scooter.
- Each driver must possess a valid Texas Drivers License.

- Scooters shall not be driven through breezeways connecting buildings or on elevated sidewalks, ramps, or porches attached to buildings.
- Scooters shall not be driven off university property unless public streets are the only means to reach a valid job-related destination.
- Scooters are not to be driven over grass areas. When turning the vehicle, particular care must be exercised to avoid damaging sodded areas.
- Per policy and procedure, the use of any type of tobacco product while operating the scooter is prohibited.

## 9. Heavy Equipment Safety

When using heavy equipment, there are five basic guidelines that employees must always follow to ensure safety:

- Know how to properly operate the equipment you are using.
- Do not use heavy machinery when you are drowsy, intoxicated, or taking prescription medication that may affect your performance.
- Use only equipment that is appropriate for the work to be done.
- Inspect your equipment to ensure that it is in good working condition before beginning a job. In addition, ensure that regular inspections and maintenance are conducted as appropriate.
- Do not stress or overload your equipment.

Accidents do not just happen; they are caused. Therefore, employees should ensure the following before leaving equipment unattended:

- All buckets, blades, etc. are on the ground.
- Transmission is in neutral.
- Engine is off.
- Equipment is secured against movement.
- Never get on or off moving equipment.
- Do not attempt to lubricate or adjust a running engine.
- Turn the engine off before refueling.
- Keep all shields and safety guards in place.
- Avoid underground utilities and overhead power lines.

### 9.1. Forklifts

Refer to the product documentation that accompanied your equipment for more information and specific instructions.

Only authorized employees may operate forklifts. The following list provides general safety guidelines:

- Do not allow riders. Do not raise people on a forklift.
- Do not speed.
- Drive up and back down ramps.
- Do not walk, stand, or work under the elevated portion of a forklift (even if it is not loaded).
- Ensure that the forklift has an overhead barrier to protect the operator from falling objects.
- Always work within the capacity limits of your forklift. Consult with the manufacturer before modifying the operation or capacity limits of a forklift.
- Do not operate a forklift in areas with hazardous concentrations of acetylene, butadiene, hydrogen, ethylene, or diethyl ether, or other explosive environments.
- Never lift a load while moving. Wait until you are completely stopped before raising the mast.
- Be sure the top load sits squarely on the stack. An uneven load could topple.
- Travel with loads slightly tilted back to provide stability.
- Travel with loads at the proper height. A stable clearance height is usually four-to-six inches at the tips and two inches at the heels of fork blades. Lift stacked loads in the same manner as loads on the floor.
- When preparing to leave the forklift unattended, lower the mast, neutralize the controls, shut the power off, and set the brakes. The forklift is "unattended" when the operator is more than 25 feet away or the forklift is out of view.
- When ascending or descending a grade in excess of 10 percent, drive the forklift with the load upgrade.
- If you cannot see over a load, drive in reverse. Do not try to look around a load and drive forward.

### 9.2. Back Hoes and Front-end Loaders

Only authorized employees may operate backhoes and front-end loaders. The following list offers general safety guidelines for both types of machinery:

- Always operate at a safe speed.
- Travel with the bucket low to the ground.
- Always lower the bucket before servicing the equipment or leaving the loader unattended.
- Use a rigid-type coupler when towing loads.
- Always check with the utility company before digging.
- Be extremely careful when operating near banks and slopes.
- When cutting a bank, be careful not to cause a cave-in. Do not drive on an overhang.

## **10. Record Retention**

No official state records may be destroyed without permission from the Texas State Library as outlined in [Texas Government Code, Section 441.187](#) and [13 Texas Administrative Code, Title 13, Part 1, Chapter 6, Subchapter A, Rule 6.7](#). The Texas State Library certifies Agency retention schedules as a means of granting permission to destroy official state records.

West Texas A & M University Records Retention Schedule is certified by the Texas State Library and Archives Commission. West Texas A & M University Environmental Health and Safety will follow [Texas A & M University Records Retention Schedule](#) as stated in the Standard Operating Procedure [61.99.01.W0.01 Records Management](#). All official state records (paper, microform, electronic, or any other media) must be retained for the minimum period designated.

## **11. Training**

West Texas A & M University Environmental Health and Safety will follow the Texas A & M University System Policy [33.05.02 Required Employee Training](#). Staff and faculty whose required training is delinquent more than 90 days will have their access to the Internet terminated until all trainings are completed. Only Blackboard and Single Sign-on will be accessible. Internet access will be restored once training has been completed. Student workers whose required training is delinquent more than 90 days will need to be terminated by their manager through Student Employment.

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## **Related Statutes, Policies, or Requirements**

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## **Contact Office**

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WTAMU Environmental Health and Safety  
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