Safety Procedures
For
Offices and General Work Areas

July 31, 2008
Introduction

The Texas Transportation Institute (TTI) is committed to providing a safe and healthful work environment for its employees and visitors. All activities and work involve some level of risk to people and property. Many activities involve low-level risks of a type and magnitude routinely encountered and accepted as requiring no special measures for mitigation. Other activities may involve increased levels of risks and require additional, appropriate measures be taken to mitigate such risks.

The success of any risk management program is dependent upon each affected person understanding, accepting and adhering to the policies and procedures of this program as well as other agency policies and programs.

Purpose

The purpose of this program is to enhance awareness of risk levels in the work environment and limit exposure of personnel and property to the lowest practical level of risk through philosophy of risk management, training of personnel, engineering controls, and establishment of policies and procedures.

Nature of Work and Related Potential Risks

Work performed in the office environment is demanding of attention and hazard awareness. In order to successfully conduct business operations, it is important to recognize potential safety risks of general office equipment, work habits, environmental aspects including fire, weather and possible threats.

Emergency Assistance (Ambulance, Police, Fire)

Throughout this program, when “911” is referenced, please follow these dialing procedures:

- 9-911 from a phone system that requires you to dial a “9” prefix
- 911 from all other phones

Bryan/College Station-Area Leased Facilities

These offices are equipped with campus phones. They should use the same dialing procedures as other campus phones (using the “9” prefix).
# Emergency Communications

## Bryan/College Station Area

<table>
<thead>
<tr>
<th>Service</th>
<th>Phone Number</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Police Department (UPD)</td>
<td>845-2345</td>
<td>24 hours/day</td>
</tr>
<tr>
<td>Dispatcher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Plant Communications Center</td>
<td>845-4311</td>
<td>24 hours/day</td>
</tr>
<tr>
<td>(Radio Room)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Spill Response Team</td>
<td>845-4311</td>
<td>24 hours/day</td>
</tr>
<tr>
<td>Radiological Emergency</td>
<td>845-4311</td>
<td>24 hours/day</td>
</tr>
<tr>
<td>Maintenance Emergency-</td>
<td>845-4311</td>
<td>24 hours/day</td>
</tr>
<tr>
<td>(Buildings and Utilities)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Health and Safety</td>
<td>845-2132</td>
<td>M-F, 8-5</td>
</tr>
<tr>
<td>Department (EHSD)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beutel Health Center</td>
<td>845-1511</td>
<td></td>
</tr>
<tr>
<td>TTI Facilities, Safety and Support Services-</td>
<td>845-6595</td>
<td>M-F, 8-5</td>
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## Non-Emergency Communications

## Bryan/ College Station Area

### Fire

<table>
<thead>
<tr>
<th>Fire</th>
<th>Phone Number</th>
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<tbody>
<tr>
<td>College Station Fire Department</td>
<td>9-764-3700</td>
<td></td>
</tr>
<tr>
<td>Bryan Fire Department</td>
<td>9-361-3888</td>
<td></td>
</tr>
<tr>
<td>Brazos County Volunteer Fire Departments</td>
<td>9-361-3888</td>
<td></td>
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### Police

<table>
<thead>
<tr>
<th>Police</th>
<th>Phone Number</th>
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<tbody>
<tr>
<td>College Station Police Department</td>
<td>9-764-3600</td>
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</tr>
<tr>
<td>Bryan Police Department</td>
<td>9-361-3888</td>
<td></td>
</tr>
<tr>
<td>Brazos County Sheriff</td>
<td>9-361-4100</td>
<td></td>
</tr>
</tbody>
</table>
Texas Department of Public Safety 9-776-3101
FBI 9-776-8894

**Ambulance**
College Station Fire Department 9-764-3700
Bryan Fire Department 9-361-3888

**Hospital**
College Station Medical Center (The Med) 9-764-5100
St. Joseph Hospital – Bryan 9-776-3777
Scott & White Clinic Urgent Care - College Station 9-691-3300
The Physicians Centre - College Station 9-731-3100

**TAMU Corps of Cadets Guard Room** 845-6789

The TAMU Corps of Cadets provide free 24-hour escort service. By calling the Guard Room, a Corps member will meet the person requesting the escort and walk with him/her to most central on-campus locations.

**TTI Urban Research Offices**

These offices should obtain the appropriate non-emergency contact numbers for their area and provide that information to their employees.
Emergency Protocols

Life Safety and Emergency Response

Dial 911 for ambulance, fire and police. From a phone system that requires you to dial a “9” prefix, dial 9-911.

- Provide the 911 dispatcher with the following information:
  - Location of emergency
  - If there are any injuries, describe type of injury, if known
  - Brief description of injured person (gender, age, etc.)
  - Your name and phone number (in case you are disconnected or the dispatcher needs additional information)

- If an ambulance is not needed:
  - Render first aid, only as trained.
  - Assist with transportation of employee to their personal physician, if appropriate.

- Make injured as comfortable as possible - do NOT move injured person unless directed by the 911 dispatcher (or if injured person is in immediate danger).

- Employees, an event witness or the employee’s supervisor shall complete an Employer’s First Report of Injury or Illness form to report any work injuries. Only facts, not opinions, should be stated on the form.

- Any time a safety issue arises, employees shall contact the appropriate supervisor immediately.

Building Evacuation

When the building fire alarm sounds:

- Do NOT assume it is a drill.

- Turn off lights.

- Close windows.

- Assist other staff, as needed or assigned.

- Close doors behind you as you leave (do not lock).
• Evacuate using building emergency plan procedures.
• Do NOT use the elevators.
• Meet at predetermined assembly point.
• Report to your floor or unit proctor, as applicable, for a headcount.
• Do NOT go back into the building until released by the proper authorities.

**Designated areas of assembly**

- CE/TTI Building – Richardson Petroleum or Zachry Engineering
- Gibb Gilchrist Building – parking lots, 200 feet from building
- JTL McNew Lab – front of CE/TTI Building
- Riverside Buildings – parking lots, 200 feet from affected building
- Bryan/College Station leased facilities – parking lots, 200 feet from affected building, if possible
- Urban Offices – area designated by property management/respective landlord, or parking lots, 200 feet from affected building

**Fire Emergency**

**Inside a Building**

- Activate a fire alarm or pull station (usually located by stairwells and exit doors).
- If not in immediate danger, call 911 (provide your name, building name, address, floor, location of fire, etc.).
- Evacuate the building according to Building Evacuation protocol.
- Call 911 if unable to call prior to evacuating building.
- Notify building coordinator, respective landlord and TTI Safety Office.
Outside a Building

- Call 911 (provide your name, nearest building, address, location of fire, etc.).
- Do NOT activate the building fire alarm system.
- Notify building coordinator, respective landlord and TTI Safety Office.

Fire Prevention

All buildings shall be equipped with fire extinguishers. Fire extinguishers are designed to control fires of limited size only.

- Fire extinguishers shall be conspicuously located and easily identified to ensure they are readily accessible in the event of a fire. They shall be located along normal paths of travel including exit areas.
- Fire extinguishers should not be installed in the area of potential immediate danger.
- All employees should know how to operate the type of extinguisher(s) installed in their work areas. The TTI Safety Office can arrange fire extinguisher training.
- On TAMU campus, TAMU EHSD regularly inspects and maintains all fire extinguishers on the campus inventory.
- Passageways, storerooms and workrooms shall be kept clean and orderly.
- Clear passageways shall be maintained to extinguishers and exits.
- Careful attention to hazardous materials is required.
- Spilled flammable liquids are to be appropriately cleaned immediately per TAMU EHSD procedures.
- Precautions against fire or explosion such as proper ventilation, prohibition of open flames or operating equipment that produces mechanical or electrical sparks are required.
Portable Fire Extinguisher Use

Use a portable fire extinguisher if:

- Employee is properly trained
- Small, contained fire (e.g., wastebasket)
- Can extinguish within 15 seconds (evacuate if it takes longer)
- Use the PASS method:
  
  P ull pin
  A im at bottom of fire
  S queeze trigger
  S weeping sprays

Severe Weather

Follow instructions provided by police, your director, program manager or building coordinator.

- Listen to the radio and television for weather updates.
- Check with media for return-to-work status.

Tornado

- Follow instructions provided by police, your director, program manager or building coordinator.
- Go to basement or lowest floor of building.
- Stay away from windows, exterior walls and doors.
- Move to interior hallways and small interior rooms (e.g., restroom, closet, etc.).
- Get under a piece of furniture if possible (e.g., sturdy table, desk, etc.).
- Call 911 if emergency help is needed.
Lightning Warning

A Thor Guard Lightning Prediction System has been installed on the TAMU campus. It will sound a warning when lightning is likely to strike on or near the campus.

Horns will sound for approximately 15 seconds and the system lights will continue to flash until the danger has passed. When the danger is past, the horns will sound three 5-second blasts and the lights will turn off.

When lightning is likely

- Cease outdoor activities.
- Seek shelter inside a building or enclosed vehicle.
- Avoid open areas, places near water, trees, metal fences, overhead wires or power lines, elevated ground or open vehicles.
- Avoid use of radios or cellular phones.

Area Evacuation/Shelter in Place

In some emergency situations such as flooding or release of hazardous materials, emergency responders may order protective actions for persons who live or work on campus. Typically, these protective actions are to evacuate to a safer location or to shelter in place. It is possible that some scenarios could result in one protective action being ordered for one part of a city and different protective actions for other areas.

When such actions are warranted, you will be appropriately advised by police, fire or safety officials via radio and television stations and the Emergency Alert System (EAS), public address systems, loudspeakers, door-to-door notifications or other appropriate means.

Area Evacuation

An area evacuation is an organized withdrawal from a building or area to reach safe haven. Upon notification to evacuate, quickly:

- Dress appropriately for the weather.
- Take only essentials with you (e.g., eye glasses, medications, identification, wallets, keys, cell phone, etc.). Do not pack belongings.
- Turn off unnecessary equipment such as computers and appliances.
• Close the door as you exit your room or office.

• Follow directions provided for safe routes of evacuation.

• Listen to the radio, if available, to monitor emergency status.

• Do not use your personal vehicle for evacuation unless specifically told to do so.

• If vehicles are used to evacuate, protect against hazardous materials by keeping windows closed and outside air conditioning systems turned off.

• If you need special assistance, contact your program manager or building coordinator or other appropriate emergency contact. If these persons are not available, call 911 for assistance.

Shelter in Place

When emergency conditions do not warrant or allow evacuation, the safest method to protect individuals may be to take shelter inside a building and await further instructions.

• Move indoors or remain there.

• Avoid windows and areas with glass.

• If available, take a battery-powered radio or television to the room to track emergency status.

• Keep phone lines free for emergency responders, do not call 911 for information.

If hazardous materials are involved

• Turn off all ventilation systems and close all outside air inlets.

• Select a room(s) which is easy to seal and, if possible, has a water supply and access to restrooms.

• If you smell gas or vapor, hold a wet cloth loosely over your nose and mouth and breathe through it as normally as possible.
Bomb Threat by Telephone Call

- Call 911 (dispatcher will notify nearest police authority).
- Document the conversation using the TAMU Bomb Threat Checklist or a checklist adapted for your area.
- Notify the building coordinator and program manager.
- Notify respective landlord.
- Notify the TTI Safety Office.
- Meet with and assist emergency responders.

As directed by the police

- Help locate/identify suspicious items.
- Evacuate building (use of public address system is preferred or activate building fire alarm system).
- Do not reenter the building until cleared by authorized personnel.
- Notify your building coordinator, respective landlord and TTI Safety Office.

Chemical Emergency Inside Building

- Isolate and secure the spill area, ONLY as trained.
- Warn others in the immediate area.
- Based upon the hazard, attempt clean up ONLY if trained and with use of appropriate personal protective equipment.
- If assistance is needed, call 911 (provide location, type of material, etc.).
- Evacuate the building as directed by 911 dispatcher using the public address system (preferred) or activating the building fire alarm system.
- Notify your building coordinator, respective landlord and TTI Safety Office.
- Meet with and assist emergency response personnel.
Chemical Emergency Outside Building

- Isolate and secure the spill area, ONLY as trained.
- Warn others in the immediate area.
- Call 911 for assistance (provide location, type of material, etc.).
- Do not wash spilled material into storm drain.
- Notify your building coordinator, respective landlord and TTI Safety Office.
- Meet with and assist emergency response personnel.

Personnel Injury Involving Chemical Contamination

- Assist with emergency eyewash/shower use, as appropriate.
- Render first aid immediately for serious injuries, ONLY as trained.
- Call 911.
- On TAMU campus, notify the TAMU Environmental Health and Safety Department (EHSD) at 845-2132.
- As possible, without doing harm to the victim, decontaminate the individual and remove and bag contaminated clothing, ONLY as trained.
- Obtain a Material Safety Data Sheet (MSDS) for the material involved.
- Notify your building coordinator, respective landlord and TTI Safety Office.
- Meet with and assist emergency response personnel.

Radiation Emergency

Personnel Injury Involving Radioactive Material Contamination

- Render first aid immediately for serious injuries, ONLY as trained.
- Call 911.
- As possible, without doing harm to the injured, monitor the individual and remove any gross personal contamination, ONLY as trained.
Radioactive Decontamination of Personnel

- Remove and bag all contaminated clothing.
- Call 911.
- Skin contamination should be cleaned using mild soap and tepid water. Use portable survey meter to monitor for remaining contamination. If not free of contamination, rewash and resurvey.
- Survey for contamination elsewhere on the body as well as on clothes, shoes, floor, door handles, telephones, etc.
- Notify your building coordinator, respective landlord and TTI Safety Office.
- Document the entire incident.

Radiation Spill or Release

- Stop and confine the spill immediately using an absorbent, enclosure, etc.
- Warn others of the hazard and isolate the area.
- Call 911.
- Monitor personnel during and after cleanup for contamination.
- Collect all used cleanup materials as radioactive waste. Remove and bag all contaminated clothing or cleaning items for removal by emergency responder.
- Commence wipe surveys and decontamination. Perform surveys of surrounding areas to ensure that all contaminated areas are identified.
- Notify your building coordinator, respective landlord and TTI Safety Office.
- Document the entire incident.

Gas Leaks

Gas Odor

- Call 911 (provide caller name, location of odor, etc.).
- Warn others in the immediate area.
• Vacate and secure area.

• Prevent sources of ignition (cigarettes, electrical equipment, etc.). Notify building coordinator, respective landlord and TTI Safety Office.

• Meet with and assist emergency response personnel.

**Major gas leak (e.g., pipeline break)**

• Call 911 (provide caller name, location of leak, etc.).

• As directed by dispatcher, evacuate the building (public address system is preferred or activate building fire alarm system).

• If outside, isolate the area.

• Warn others in the immediate area.

• Prevent sources of ignition (cigarettes, electrical equipment, etc.).

• Notify your building coordinator, respective landlord and TTI Safety Office.

• Meet with and assist emergency response personnel.

• Do not reenter the building or outside area until cleared by authorized personnel.

**Mail Handling Safety**

**General Mail Safety Indicators**

Be extra cautious with any letter or package that:

• Has any powdery substance on the outside

• Has a strange odor or stains, or protruding wires

• Has an unusual amount of tape on it

• Is of unusual weight, given its size or is lopsided or oddly shaped

• Has no return address or one that can’t be verified as legitimate

• Has excessive postage, is handwritten or contains a poorly typed address, incorrect title or just a title with no name or misspells common words
• Is unexpected or from someone unfamiliar to you

• Is marked with restrictive endorsements, such as “Personal” or “Confidential”

• Is addressed to someone no longer with TTI or is otherwise outdated

**Recommendations:**

• If possible, DO NOT HANDLE.

• Handle with care - do NOT shake or bump.

• Isolate and look for indicators.

• Do NOT open, smell or taste - treat it as suspect.

• Call the TTI mail room, 979-845-9860, or

• Call 911 for instructions.

• Keep others from entering the room.

**Non-emergency Protocols**

• Contact the TTI Safety Office, 979-845-6595, for assistance. You can also call the TAMU EHSD at 979-845-2132 for assistance. Be certain to state that you are with TTI and provide your location.

• Notify your building coordinator, respective landlord and TTI Safety Office.

**General Office Safety**

**Good Housekeeping Practices**

Many office accidents are caused by poor housekeeping practices. By keeping the office floor both neat and clean, you can eliminate most slipping, tripping, and falling hazards. Other good housekeeping practices include the following:

• Ensure that office lighting is adequate and available. Replace burned out light bulbs, and have additional lighting installed as necessary.

• Ensure that electrical cords and phone cords do not cross walkways or otherwise pose a tripping hazard. If you cannot move a cord, have a new outlet installed or secure the cord to the floor with cord covering strips.
- Do not tape cords down or run them underneath carpet.
- Immediately report or repair trip hazards (e.g., floor tiles, boards, carpet)
- Clean spills and pick up fallen debris immediately. Even a loose pencil or paper clip could cause a serious falling injury.
- Keep office equipment, facilities and machines in good condition.
- Store items in an approved storage space. Take care to not stack anything within 18 inches of the ceiling in buildings with sprinkler systems and within 24 inches in buildings without sprinkler systems.
- Ensure that boxes are clearly labeled with their contents.

**Hazardous Objects and Materials**

Hazardous objects such as knives and firearms are not permitted in the workplace. In addition, hazardous chemicals and materials should not be stored in offices. Hazardous materials include, but are not limited to:

- Carcinogens
- Combustibles
- Flammables
- Gas cylinders
- Irritants
- Oxidizers
- Reactives

**Office Restrictions**

- No candles, potpourri burners or similar items allowed in offices.
- While in use, no unattended devices with heating units (e.g., microwaves, toasters, space heaters, cup warmers).
  - If space heaters are allowed in your facility and are used, ensure that each one is equipped with an automatic shut-off feature in case it falls from the upright position.
Preventing Cuts and Punctures

Cuts and punctures happen when people use everyday office supplies without exercising care. Follow these guidelines to help reduce the chance for cuts and punctures:

- When sealing envelopes, use a liquid dispenser, not your tongue.
- Be careful when using kitchen knives, scissors, staplers, letter openers and box openers. Any of these items could cause a painful injury.
- Avoid picking up broken glass with your bare hands. Wear appropriate gloves and use a broom and a dust pan.
- Place used blades or broken glass in a sharps disposal container, as available, or in a rigid container, such as a box or plastic tub, and tape shut before disposing in a wastebasket.

Preventing Machine Accidents

Only use machines that you know how to operate. Never attempt to operate an unfamiliar machine without reading the machine instructions or receiving directions from a qualified employee. In addition, follow these guidelines to ensure machine safety:

- Secure machines that tend to move during operation.
- Do not place machines near the edge of a table or desk.
- Ensure that machines with moving parts are guarded to prevent accidents. Do not remove these guards.
- Unplug defective machines and have them repaired immediately.
- Do not use any machine that smokes, sparks, shocks or appears defective in any way.
- Close hand-operated paper cutters after each use and activate the guard.
- Take care when working with copy machines. If you have to open the machine for maintenance, repair or troubleshooting, remember that some parts may be hot. Always follow the manufacturer's instructions for troubleshooting.
- Unplug paper shredders before conducting maintenance, repair or troubleshooting.
Some items can be very dangerous when worn near machinery with moving parts. If possible, avoid wearing the following items near machines with moving parts:

- Loose belts
- Jewelry
- Long, loose sleeves or pants
- Scarves and ties
- Long, loose hair

**Preventing Slips and Falls**

The easiest way to avoid slips and falls is to pay attention to your surroundings and to avoid running or rushing. To ensure safety for others in the office, follow these guidelines:

- Arrange office furnishings in a manner that provides unobstructed areas for movement.
- Keep stairs, steps, flooring and carpeting well maintained.
- Ensure that glass doors have some type of marking to keep people from walking through it.
- Clearly mark any difference in floor level that could cause an accident.
- Secure throw rugs and mats to prevent slipping hazards.
- Do not place wastebaskets or other objects in walkways.

**Equipment Safety**

As mentioned earlier, common office machines such as the following require special safety consideration: copiers, microwaves, adding machines, typewriters and computers.

Other office equipment that requires safety consideration includes furniture such as file cabinets, shelves, desks and chairs.
File Cabinets and Shelves

Because file cabinets and shelves tend to support heavy loads, treat them with special care. Follow these safety guidelines for file cabinets:

- Secure file cabinets that are not weighted at the bottom. Bolt them to the floor or to the wall.
- Ensure that file cabinet drawers cannot easily be pulled clear of the cabinet.
- Do not block ventilation grates with file cabinets.
- Open only one drawer at a time to keep the cabinet from toppling.
- Close drawers when they are not in use.
- Do not place heavy objects on top of cabinets. Be aware that anything on top of a cabinet may fall off if a drawer is opened suddenly.
- Close drawers slowly, using the handle to avoid pinched fingers.
- Keep the bottom drawer full. This will help stabilize the entire cabinet.

Follow these safety guidelines for office shelves:

- Secure shelves that are not weighted at the bottom by bolting them to the floor or wall.
- Place heavy objects on the bottom shelves. This will keep the entire structure more stable.
- Ensure that there is at least 18 inches between the top shelf items and the ceiling. This space will allow ceiling sprinklers (if present) to function properly if a fire occurs.
- Do not block ventilation grates with shelves.
- Never climb on shelves (even lower shelves). Use an approved ladder.

Desks

Follow these safety guidelines for office desks:

- Keep desks in good condition (i.e., free from sharp edges, nails, etc.).
• Ensure that desks do not block exits or passageways.

• Ensure that glass-top desks do not have sharp edges.

• Ensure that desks with spring-loaded tables (or trays) function properly. The table should not spring forth with enough force to cause an injury.

• Do not climb on desks. Use an approved ladder.

• Keep desk drawers closed when not in use.

• Repair or report any desk damage that could be hazardous.

**Chairs**

Safety guidelines for office chairs include the following:

• Do not lean back in office chairs, particularly swivel chairs and/or chairs with rollers.

• Do not climb on any office chair. Use an approved ladder.

• Office desk chairs should have adjustable back support and seat height. Make sure that your chair’s back support position and seat height are comfortable. Chairs should be rated for extended use.

• Take care when sitting in a chair with rollers. Make sure it does not roll out from under you when you sit down.

• Repair or report any chair damage that could be hazardous.

• Do not roll chairs over electrical cords.

**Ladders**

Always use an approved ladder or stool to reach any item above your extended arm height. Never use a makeshift device, such as a desktop, file cabinet, bookshelf or box as a substitute for a ladder.

Follow these guidelines when using ladders:

• Do not load a ladder above its intended weight capacity.

• Place ladders on slip-free surfaces even if they have slip-resistant feet. Secure the ladder if a slip-free surface is not available.
• Avoid placing ladders in walkways. Secure a ladder if its location could cause an accident.

• Keep areas around ladders clean and free of debris.

• Do not use a ladder in front of a door unless the door is locked and barricaded.

**Manual Lifting and Carrying**

• Do not lift more than you can handle comfortably.

• Never carry a load that you cannot see around.

• Keep your shoulders parallel to your hips when lifting. Do not twist.

• Place one foot alongside the object and one behind the object.

• Use the sit-down position and keep your back straight – remember that “straight” does not necessarily mean vertical.

• Draw the load close to your body and keep your arms and elbows tucked close to your body.

• Use your full palm to grip the object.

• Tuck in your chin and initiate the lift with a thrust of the rear foot.

• Keep manual lifting and carrying to a minimum.

TTI Facilities, Safety and Support Services can provide additional assistance when large items need to be moved or handled.

**Preventing Stress**

To reduce stress and prevent fatigue, it is important to take mini-breaks (not many breaks) throughout the day. If possible, change tasks at least once every two hours. Stretch your arms, neck and legs often if you do the same type of work for long periods of time. Rest your eyes often by closing them or looking at something other than the work at hand. For a quick pick-me-up, breathe deeply several times by inhaling through your nose and exhaling through your mouth. In addition, always try to eat your lunch somewhere other than your desk.

*Always be certain that you are physically capable of performing exercises prior to beginning a new exercise. Contact your physician if you have concerns or questions.*
Examples of stress-relieving exercises that can be done at your desk include the following:

- **Head and Neck Stretch**
  - Slowly turn your head to the left, and hold it for 3 seconds. Slowly turn your head to the right, and hold it for 3 seconds. Drop your chin gently toward your chest and then tilt it back as far as you can. Repeat these steps five to ten times.

- **Shoulder Roll**
  - Roll your shoulders forward and then backward using a circular motion.

- **Upper Back Stretch**
  - Grasp one arm below the elbow and pull gently toward the other shoulder. Hold this position for 5 seconds and then repeat with the other arm.

- **Wrist Wave**
  - With your arms extended in front of you, raise and lower your hands several times.

- **Finger Stretch**
  - Make fists with your hands and hold tight for 1 second, then spread your fingers wide for 5 seconds.

**Office Ergonomic Principles**

With the extensive use of computers and other automated desk devices in the workplace, employees must take special care to ensure proper work station arrangement. For the purpose of these procedures, a work station consists of the equipment and furniture associated with a typical desk arrangement (i.e., desk, chair and computer components).

The following sections offer recommendations for ensuring employee comfort through proper work station arrangement.
**Operator’s Position**

Your seating position at work is important to your comfort and safety. To reduce potential painful effects of repetitive motion, follow these guidelines when working with computers or typewriters:

- Always try to sit in an upright position. Make sure your chair is adjusted to provide adequate support to your back.

- Place your feet flat on the floor or on a footrest. Lower legs should be approximately vertical, and thighs should be approximately horizontal. The majority of your weight should be on the buttocks.

- Ensure that there is at least 1 - 2 inches of clearance between the top of your thighs and the bottom of the desk or attached keyboard tray.

- Keep your elbows and wrists in a neutral position. They should not rest on the edge of the desk.

- Keep the front edge of your chair’s seat cushion approximately 2 - 4 inches behind your knees.

**Equipment Arrangement**

By properly arranging your equipment, you can help reduce the harmful effects of repetitive motion. Follow these guidelines for arranging office equipment:

- **Lighting**
  
  - Lighting around computer work stations should illuminate the work area without obscuring the computer monitor or causing glare. Position computer monitors, draperies, blinds and pictures to reduce glare during work hours (e.g., place the monitor at a right angle to the window).

- **Computer Monitor**
  
  - Images should be clear and well-defined. Adjust the screen’s brightness, contrast and display size to meet your needs. If a screen flickers or jumps, have it repaired or replaced.

  - Place the monitor 18 - 32 inches away from the eyes (depending on your vision needs). The center of the monitor should be at or just below eye level.
• **Keyboards**
  
  o Position computer keyboards so that the angle between the forearm and upper arm is between 80 and 120 degrees (a relaxed 90 degree angle is optimal).
  
  o Place the keyboard in an area that is accessible and comfortable.
  
  o Contact TTI Facilities, Safety and Support Services to discuss installation of under-desk mounted keyboard trays.

• **Wrist Support**
  
  o If your keyboard does not come equipped with wrist rests, use wrist supports made of padded material. The support should allow you to type without bending your wrists.

• **Document holders**
  
  o Keep documents at approximately the same height and distance from your face as the computer monitor.

• **Telephones**
  
  o Neck tension is a potential problem caused by holding the telephone between the head and neck. Use a headset or speakerphone if you use the telephone for extended periods of time.
  
  o Position your phone on your desk in an accessible area that does not require extensive stretching to reach or where cords are easily entangled with keyboard or mouse cords.

**Additional Information**

• The TTI Safety Office can assist with arrangements for personnel safety training in various areas and assist with written safety protocols.

• The TTI Safety Office shall review this program, at a minimum, on an annual basis.

• The TTI Safety Office is responsible for updating and maintaining this program with comments from the TTI Safety and Environmental Council.