

DISTRICT ENERGY SAFETY PROCEDURES

District Energy workers tend to the production and distribution of steam, chilled water, and compressed air for most of the campus. Their operation includes: maintenance of the boilers; on-site maintenance and installation of building heating units; and maintenance of steam lines in the steam tunnels.

MATERIAL SAFETY DATA SHEETS (MSDS)

The MSDS binder contains all chemicals used and or stored at the District Energy plant and is kept in the lab next to the control room. Each chemical has a certain procedure for clean up of spills how to extinguish them if they catch fire and what to do in the event of ingestion or contact. It is your responsibility to review and know the information in the MSDS before using chemicals. All employees have access to this information and should know how to read an MSDS sheet. Training on CD is available at the District Energy plant for Hazard Communication, Lockout / Tag-out, and Confined Space.

ENVIRONMENTAL HEALTH AND SAFETY

You can call EHS with any questions about an MSDS or with a product you are not sure about. Assistance with an emergency can be found at 491-6745 during the day and 911 for CSU Police after hours or on weekends.

CHEMICAL STORAGE AND HANDLING

Chemicals are stored and used at the District Energy plant so proper care should be taken when handling them. When working with anti-corrosives, wear face shield with goggles, elbow length gloves, rubber apron, and respirator where required. These are provided and are located near the tanks. These are necessary and will significantly reduce chances of exposure and injury. Receptacles that contain chemicals for storage or transportation must be properly labeled. When in doubt, check the MSDS.

CHEMICAL AND OIL SPILL PROCEDURE

In case of a chemical spill your first action should be to move yourself to a safe location to survey the spill and plan your clean up. Notify your supervisor as soon as possible. If it is a small spill you should be able to clean it up using the absorbent pads, absorbent material, or the spill response buckets all of which are located in the oil storage room. If it is a large spill, you must call for outside help. Help can be reached at Environmental Health and Safety office on Campus at 491-6745 during the day and 911 for CSU Police after hours or on weekends. **NOTE: The police department can be reached by dialing 911 from any phone on campus. They will automatically know where you are. Call them for any emergency.**

WORK IN STEAM TUNNELS

This can be a dangerous task as the temperatures in the tunnels can exceed 115 degrees F. Therefore, the "buddy system" using two people must be observed for any travel in the tunnels.

- ♦ A hard hat must be worn during travel in the steam tunnels.
- ♦ Duty Operator needs to be informed when you enter or leave a steam tunnel.
- ♦ Hand held safety monitor will be carried at all times. Check one out at the DE control room.
- ♦ Know and review alternate exits when performing work in the tunnel for emergency egress.
- ♦ If a person feels weak or nauseated, they should tell the buddy and make their way to an area that is ventilated.
- ♦ Proper eye protection must be worn when in the tunnels.
- ♦ Review CONFINED SPACE ENTRY PROGRAM section.

- ♦ Some tunnels contain asbestos materials. Report badly damaged ACM to the supervisor. **DO NOT** handle ACM. If an asbestos situation occurs, notify the Environmental Health Services department immediately. Asbestos removal can only be done by people trained and certified in the procedure.

LOCKOUT/TAGOUT

Lockout / Tagout is a phrase used to describe what is done with electrical breakers, switches, or any energy source including hydraulics or compressed air when work is to be done on a piece of equipment. Isolating the energy source from your work includes locking the valves, switches breakers, etc., so that they cannot be energized without your key and tagging it to be visible. A book is kept in the control room that tells the nature of the work being done, the person who tagged it out, and what is locked and tagged. After work is completed, then tag that job back in with appropriate entry in the book. Never remove tags you did not hang.

SAFE LOAD CHANGE FROM CITY TO GENERATOR

To shift electrical load from city to emergency power use the following guidelines:

- ♦ Check generator speed for proper Hz
- ♦ Ensure panel breaker is energized
- ♦ Load accepted light must be on
- ♦ Hold transfer switch for full twenty seconds

WORK AROUND 125 psig STEAM AND BOILERS

Boilers are a confined space (See CONFINED SPACE, Chapter 18 of this manual). Only certified, experienced, and trained operators are allowed to work around such equipment. All other employees are prohibited from working with main plant boilers.

SAFE USE OF OXYACETYLENE TORCHES

The main dangers of oxyacetylene cutting are fire, burns, and toxic fumes. If a person feels dizzy or nauseated, or has blurred vision, they should discontinue the job and get some fresh air.

PRECAUTIONS

- ♦ When using oxyacetylene torches, make sure that a multipurpose dry-chemical fire extinguisher is readily available and in working condition. It is recommended that a 10 lb. (4A.40BC) portable extinguisher be on hand.
- ♦ When using torch indoors, use only in a well-ventilated place.
- ♦ Wear welding goggles and protective clothing including gloves and welding shield. Keep gloves, hands, and clothing free of oil and grease. Wear gloves to handle hot metal.
- ♦ Avoid breathing toxic fumes like galvanized metal fumes, and some paint fumes.
- ♦ Use welding shield for jobs on campus that can be seen from passersby.
- ♦ Do not leave a burning torch unattended.
- ♦ Cut or weld at least 5 feet away from cylinders.
- ♦ Always use regulators; do not use oxygen or acetylene directly from cylinders. Be sure that the regulators used are of the proper design for the cylinder.
- ♦ Use flint lights, **NOT MATCHES**, for lighting torch.
- ♦ Use hoses designated for oxygen and acetylene only.
- ♦ Do not use oil on regulators, torches, fittings, or any equipment surface that may come in contact with oxygen. Be especially careful not to oil or grease oxygen fittings. These substances will ignite with a violent explosion.
- ♦ Do not use compressed oxygen to clean off clothing, as compressed oxygen is not compressed air. Oxygen speeds up combustion, and if clothes become oxygen-soaked, they will need only a

spark to burst into flames.

- ◆ Do not breathe compressed oxygen directly from cylinder or hose.
- ◆ Use soap and paintbrush to test connections for leaks.
- ◆ Do not use acetylene at pressures higher than 15 pounds per square inch (psi). Acetylene becomes unstable and highly explosive when pressure is over 15 psi.
- ◆ Do not cut or weld directly on gravel or concrete.
- ◆ Keep heat, flames, and sparks away from combustibles.
- ◆ Do not cut or weld on containers that have been used to store combustible materials unless containers have been properly cleaned and purged. Containers that fall into this category are ones that once contained nitrogen, carbon dioxide, or argon.

SAFE USE OF A GRINDER

Do not apply too much pressure when using the grinder. Always wear safety glasses while using the grinder. Check with the supervisor to obtain safety glasses (See [GENERAL WORK RULES Eye Protection, Chapter 2, page 2](#)).

HAND TOOL SAFETY

The hand tools for the operations in heating are common and should be applied only for their proper usage. (See [GENERAL WORK RULES General Equipment, Section 2, page 9](#)).

DISTRICT ENERGY FLOOR PLAN

Floor plans of the District Energy plant are posted on each floor with the location of all fire extinguishers. First Aid kit is located on main floor by office.

ASBESTOS REMOVAL

Asbestos removal can only be done by people trained and certified in the procedure.