

UTILITY MECHANIC//SR. UTILITY MECHANIC

Ref. Code: P-BM-6

MAINTAINING AND REPLACING BUILDING STEAM AND CONDENSATE PIPING		
Activity	Hazard Identification	Required Precautions
1. Driving to and from work site.	1. Motor vehicle accident; striking pedestrians, bicyclists, or persons using rollerblades.	1. Wear prescription lenses, if required, and seatbelt. Verify that all equipment on vehicle is secured properly. Stay alert for pedestrians, bicyclists, and persons using rollerblades.
2. Operating valves on high-pressure steam lines.	2. Water hammer causing pipe to rupture.	2. Be aware of the system pressure. Operating the valve safely may necessitate one or more of the following: <ul style="list-style-type: none"> • Release pressure by cracking a valve. • Equalize pressure by cracking valve slowly. • Drain water slowly from system using purge valve or main steam valve. • De-energize piping to safely purge water.
3. Using stepladder or mechanics ladder.	3. Ladder collapsing; slipping/falling from ladder.	3. Inspect ladder before use. Use ladder of proper height. Make sure ladder is properly assembled and locked and standing on level ground. Do not exceed weight limit for ladder. Do not stand on top of ladder or on top rung. Have coworker hold ladder.
4. Using extension ladder.	4. Ladder falling; slipping/falling from ladder.	4. Inspect ladder before use. Verify that ladder is properly assembled and that it is securely positioned on level ground. Use 1'-4' rule. Use OSHA decal to verify that the ladder is in the proper position. Verify safe means of climbing on/off ladder.

UTILITY MECHANIC//SR. UTILITY MECHANIC

--	--	--

UTILITY MECHANIC//SR. UTILITY MECHANIC

5. Using interior scaffolding.	5. Scaffolding collapsing; falling from scaffolding.	5. Verify that scaffolding is properly assembled and wheels locked. Use safety rails properly. Verify a safe means of climbing on/off scaffolding.
6. Using power tools, including drills, saws, pipe threader, and pipe cutter.	6a. Electric shock; electrocution.	6a. Inspect cord before use. Keep power cord away from work area. Plug tools into GFCI-protected outlets. Do not use electric tools if work area is wet.
	6b. Tripping over or cutting power cord.	6b. Keep power cord away from work area.
	6c. Injury from flying bits of material.	6c. Wear safety glasses, and optionally, a dust mask, gloves, long-sleeve shirt and/or coveralls.
	6d. Drill or saw catching; drill bit breaking; severe lacerations; dismemberment.	6d. Keep tools in good condition. Inspect tools before use. Verify that guards work properly. Keep hands away from blades. When using tools, make sure you have a good center of gravity and area properly balanced. Hold tools securely with two hands to maintain control.
	6e. Getting caught in pipe threading machine.	6e. Do not wear loose clothing, jewelry, or keys. Stay alert while working with pipe threader.
7. Using hand tools.	7. Cuts, pinches, smashes, punctures, severing of fingers.	7. Keep tools in good condition. Inspect tools before use. Wear safety glasses. Work away from yourself. Use normal caution required for all hand tools.
8. Storing or transporting compressed gas cylinders and oxygen/acetylene torch.	8a. Explosion of compressed gas.	8a. Do not allow cylinder valves or regulator assemblies to come into contact with grease, oil, or lubricants.
	8b. Rupture of cylinder if valve breaks off.	8b. Install protective valve cover. Secure cylinder to a stand or a wall.

UTILITY MECHANIC//SR. UTILITY MECHANIC

9. Using oxygen/acetylene outfit.	9a. Regulator diaphragm rupturing when torch is turned on.	9a. Turn regulator adjusting screw counterclockwise to disengage plunger before turning on cylinder.
	9b. Acetylene explosion.	9b. Stand acetylene tank vertically before using.
	9c. Torch explosion.	9c. Install spark arrestors on torch and regulators.
	9d. Burning self.	9d. Wear gloves, overalls, and leather chaps. Burn away from yourself.
	9e. Starting a fire.	9e. Remove flammable materials from work area. Keep a fire extinguisher nearby and have a person stand by as a firewatch.
	9f. Burns from metal dripping on self.	9f. Do not reach to burn; always work level with torch.
	9g. Inhalation of fumes.	9g. Work in a well-ventilated area. Use exhaust fans and tubes for ventilation.
	9h. Flash burn to eyes.	9h. Wear burning goggles to protect eyes.
	9i. Burning tar coating and/or galvanized coating creates a poisonous gas.	9i. Tar coating is sometimes wrapped in cardboard. Silver coating on pipes or plates indicates galvanized coating. If possible, use reciprocating saw to cut instead of burning with torch. If it is not possible to saw the pipe, ventilate the area well with incoming and outgoing air. Wear an air pack or a galvanized-rated respirator to avoid breathing fumes.
	9j. Buildup of acetylene from leaks.	9j. Check hose and connections for leaks and damage before using.
10. Replacing steam, condensate, and steam trap components.	10. Water hammer causing pipe to burst.	10. Properly lock out steam and condensate piping to avoid water hammer conditions. Leave purge valves open where possible. Every few days, open valves to drain

UTILITY MECHANIC//SR. UTILITY MECHANIC

		accumulated water when no steam traps are in service.
--	--	---

UTILITY MECHANIC//SR. UTILITY MECHANIC

11. Lifting heavy weight.	11. Back strain; overexertion.	11. Know your weight lifting capacity and get help if needed. Lift using leg muscles. Keep back straight. Use mechanical lifting equipment.
12. Working in mechanical room.	12a. Getting burned by steam, hot water, or hot oil.	12a. Wear proper protective clothing. Be aware of your surroundings and of possible leaks.
	12b. Inhalation, skin exposure, or irritation to eyes from contact with soot, silica, waste oil contaminants, solvents, oil additives, and ceramic fibers.	12b. Wear proper protective clothing. Be aware of unusual odors (e.g., natural gas) that could signify leaks.
	12c. Electric shock; electrocution.	12c. Always use GFCI protectors.
	12d. Damage to eyes from bright flame intensities.	12d. Wear eye protection.
	12e. Explosion from leaking gas.	12e. Be aware of odors that could signify leaks. If you smell gas, evacuate the area and alert the dispatcher.
	12f. Slipping on water or oil on floor.	12f. Clean up any standing water or oil. Identify leak and repair it if possible.
	12g. Lack of oxygen due to large refrigeration leak.	12g. Oil vapors indicate a possible refrigeration leak. Ventilate the area immediately. Test the air to verify safety before returning to the mechanical room to work.
	12h. Excessively hot temperatures; heat exhaustion.	12h. Take frequent breaks in cooler areas. Drink plenty of liquids.
	12i. Loss of hearing due to loud noise.	12i. Wear earplugs or ear muffs.
	12j. Tripping.	12j. Survey work area for hazards. Walk carefully.
	12k. Inhalation of dust.	12k. Wear dust mask.

UTILITY MECHANIC//SR. UTILITY MECHANIC

MAINTAINING & REPLACING BUILDING STEAM & CONDENSATE PIPING