

**CENTRAL PLANT
HEATING/CHILLED WATER OPERATOR
Ref. Code: C-WO-3**

OPERATION OF CHILLED WATER PLANT		
Activity	Hazard Identification	Required Precautions
1. Walking on steps, catwalks, and platforms.	1. Slipping; falling.	1. Keep walkways clear of hazards. Walk carefully to maintain footing.
2. Using stepladder or mechanics ladder.	2. Ladder collapsing; slipping/falling from ladder.	2. 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.
3. Using extension ladder.	3. Ladder falling; slipping/falling from ladder.	3. 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.
4. Climbing steep staircase or permanent ladder to gain access to roof.	4. Falling off ladder or down staircase.	4. Make sure ladder is secured well to wall. Clear hazards from area. Walk carefully to maintain footing.
5. Starting up and operating chillers: turning on pumps, opening valves, and checking gauges.	5a. Back strain; overexertion.	5a. Take your time opening valves. Get help from partner with valves that are difficult to open.
	5b. Getting burned by steam or hot water when starting up absorption unit.	5b. Wear gloves. Stay clear of hot pipes.
6. Working in chiller room.	6a. When working on or near absorption unit: getting burned by steam or hot water.	6a. Wear proper protective clothing. Be aware of your surroundings and of possible leaks.
	6b. Inhalation, skin exposure, or irritation to eyes from contact with lithium bromide, freon, biocides, and water treatment chemicals for open and closed systems.	6b. Wear proper protective clothing. Be aware of unusual odors that could signify leaks.

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	6c. Electric shock; electrocution.	6c. Always use GFCI protectors.
	6d. Slipping on water or oil on floor.	6d. Clean up any standing water or oil. Identify leaks and repair if possible.
	6e. Lack of oxygen due to large refrigeration leak.	6e. Oil vapors indicate possible refrigeration leak. Ventilate the area immediately. Test the air to verify safety before returning to area.
	6f. Loss of hearing due to loud noise.	6f. Wear earplugs or ear muffs.
	6g. Tripping.	6g. Survey work area for hazards. Walk carefully.
7. Operating centrifugal and absorption chillers, cooling tower fans, chilled water and condenser pumps, variable speed pumps, and turbine pumps.	7. Getting cut by or caught in moving parts.	7. Shut down fan motors before working on them. Do not wear loose clothing, jewelry, or keys.
8. Blowing down separators and strainers.	8. Getting sprayed with high-pressure water; ladder getting knocked over by water spray.	8. Position ladder and self out of path of water.
9. Performing treatment tests on chilled water, condenser water, and city water.	9. Getting chemicals in eyes or on skin.	9. Wear eye protection. Avoid contact with skin. If chemical does come into contact with skin, wash affected area immediately.
10. Measuring and adding treatment to chillers and condenser water.	10a. Severe skin irritation or severe injuries to eyes form contact with chemicals.	10a. Wear rubber gloves and eye protection. Avoid contact with skin. If chemical does come into contact with skin, wash affected area immediately. Be familiar with Material Safety Data Sheets before using any chemicals.
	10b. Inhalation of hazardous chemicals.	10b. Use in a well-ventilated area.
	10c. Tripping while carrying container of chemicals.	10c. Carry chemicals in closed containers. Clear path of hazards to avoid tripping.
	10d. Chemicals being splashed back onto worker when adding chemicals to pressurized open pit.	10d. Do not pour chemicals directly into open pit. Pour chemicals into pump return or use funnel to pour chemicals into small opening to pit.

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<p>11. Lifting/moving heavy weight: moving 350 lb. Drums; unloading parts from delivery trucks; hoisting equipment to upper levels.</p>	<p>11. Back strain; overexertion.</p>	<p>11. Know your weight lifting capacity and get help if needed. Use hand trucks. Have two or more people lift extremely heavy objects. Lift using leg muscles. Keep back straight. Use mechanical lifting equipment when necessary.</p>
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