

**HEAVY REFRIGERATION MECHANIC//
SR. HEAVY REFRIGERATION MECHANIC**

WORKING ON CHILLED WATER LINES IN MANHOLES		
Activity	Hazard Identification	Required Precautions
1. Driving to and from work site.	1. Motor vehicle accident; striking pedestrians, bicyclists, or individuals 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 individuals using rollerblades.
2. Lifting manhole covers.	2. Back strain; overexertion; dropping cover on fingers.	2. Use lifting tools and slide manhole covers. Use two people to lift cover when necessary.
3. Working in manholes.	3a. Serious illness due to lack of oxygen or exposure to methane gas.	3a. Before working in confined area, verify that it is safe by monitoring air (get confined space permit as required). While working, always ventilate area using fan. In vertical tunnels, always use tripod and harness in case worker becomes ill and must be pulled up. Always have at least one person outside confined area to monitor safety of those working inside.
	3b. Slipping/falling from ladder.	3b. Repair ladder rungs when necessary. Wear rubber boots. Climb/walk slowly and carefully to maintain footing.
	3c. Dark work area.	3c. Use flashlights and bright floodlights to light up work area.
	3d. Slipping.	3d. Pump out surface water before entering manhole.
4. Using stepladder.	4. Ladder collapsing; slipping/falling from ladder.	4. 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.
5. Changing valves using come-along or block and tackle.	5a. Dropping valve.	5a. Hook lifting equipment to a secure anchoring device.

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	5b. Getting cut by frayed wire ropes.	5b. Inspect equipment before use and replace frayed wire ropes.
6. Using hand tools such as sockets, wrenches, and pinch bars.	6. Cuts, pinches, smashes, punctures, severing of fingers.	6. Keep tools in good condition. Inspect tools before use. Ear safety glasses. Work away from yourself. Use normal caution required for all hand tools.
7. Working in area of pedestrian traffic.	7. Pedestrian falling into manhole.	7. Always have one person on top to keep watch.