

SOP: Plumbing Systems Maintenance and Troubleshooting

Objective

This SOP details **plumbing systems maintenance and troubleshooting**, covering routine inspection procedures, leak detection and repair, pipe fitting and replacement, valve operation and testing, drain cleaning and blockage removal, water pressure assessment, and emergency response to plumbing failures. The objective is to ensure the optimal functioning and longevity of plumbing systems while minimizing downtime and preventing water damage through systematic maintenance and efficient troubleshooting methods.

Scope

This SOP applies to all personnel responsible for monitoring, maintaining, and repairing plumbing systems in the facility.

Responsibilities

- **Maintenance Technicians:** Perform routine inspections and maintenance tasks as outlined.
- **Supervisors:** Oversee adherence to SOP and verify corrective actions are properly implemented.
- **Facility Management:** Ensure resources and training are available for effective plumbing maintenance.

Required Tools & Materials

- Pipe wrenches, pliers, and cutters
- Leak detection equipment
- Pipe fittings and replacement sections
- Washing hoses and drain augers
- Pressure gauges
- Personal protective equipment (PPE)
- Valve packing, sealants, and replacement washers
- Flashlights and inspection cameras
- Emergency shutoff tools

Procedure

1. **Routine Inspection Procedures**
 - Visually inspect all exposed pipes, joints, and valves for signs of corrosion, wear, or leaks.
 - Check for evidence of water staining, mold, or mildew indicating hidden leaks.
 - Confirm all support brackets and hangers are secure and not causing pipe stress.
2. **Leak Detection and Repair**
 - Use leak detection devices or pressure drop tests as needed.
 - For minor leaks, tighten fittings or replace washers/seals as appropriate.
 - If pipe sections are damaged, shut off relevant valves and replace sections using compatible material.
3. **Pipe Fitting and Replacement**
 - Identify damaged or corroded pipe sections.
 - Carefully remove defective sections following lockout/tagout (LOTO) procedures.
 - Install and seal replacement pipes, ensuring proper fit and no leaks upon pressure testing.
4. **Valve Operation and Testing**
 - Operate all control and shut-off valves periodically to prevent sticking.
 - Replace faulty or leaking valves as necessary.
 - Confirm proper valve operation during and after repairs.
5. **Drain Cleaning and Blockage Removal**
 - Inspect drains for slow flow or signs of blockage.
 - Use plungers, augers, or jetters to remove obstructions safely.
 - Flush drains with water to confirm clear and unobstructed flow.
6. **Water Pressure Assessment**
 - Check water pressure with calibrated gauges at key system points.
 - Adjust pressure regulators or correct system issues as required.
 - Record readings and corrective actions in maintenance logs.
7. **Emergency Response to Plumbing Failures**
 - Immediately shut off main valves in the event of a burst pipe or major leak.
 - Evacuate affected areas if water damage poses electrical or slip hazards.
 - Conduct repairs following proper safety protocols.

- Document incident, repairs, and actions taken for future reference.

Documentation and Record-Keeping

- Log all inspections and maintenance activities in the plumbing systems maintenance record.
- Report any major issues, repairs, or replacements to facility management promptly.
- Maintain up-to-date documentation of system layouts, shutoff locations, and emergency procedures.

References

- Manufacturer's operation and maintenance manuals
- Facility-specific plumbing schematics
- Local plumbing codes and regulations
- OSHA safety guidelines

Revision History

Date	Revision	Description	Approved By
2024-06-07	1.0	Initial SOP template publication	Facilities Manager