



# Standard Operating Procedure (SOP) Elements

Creating a comprehensive wastewater treatment plant SOP helps ensure the proper functioning and maintenance of critical systems.

Below is a sample list of O&M aspects of wastewater treatment. Please note that this is a generalized list and would need to be tailored to your specific plant's size, requirements, and regulations. Additionally, local regulations and industry standards need to be incorporated into the SOP. Seek advice from your environmental consultant to ensure proper compliance.

## OPERATIONAL CHECKS

- ✓ Verify the influent flow rate and characteristics (pH, temperature, TSS, BOD, COD, etc.).
- ✓ Inspect and calibrate flow meters and level sensors.
- ✓ Check for any floating scum or settled sludge buildup.
- ✓ Ensure proper functioning of sludge removal equipment.
- ✓ Inspect and maintain diffusers or mechanical aerators.
- ✓ Monitor effluent quality (BOD, COD, TSS, etc.) to meet regulatory standards.
- ✓ Test treated water for any remaining contaminants.
- ✓ Verify proper chemical storage, handling, and dosing procedures.
- ✓ Regularly inspect chemical feed systems for leaks and malfunctions.

## EQUIPMENT MAINTENANCE

- ✓ Follow a preventive maintenance schedule for all equipment.
- ✓ Keep detailed maintenance logs and records.
- ✓ Regularly inspect and clean pumps, motors, and valves.

## EMERGENCY PREPAREDNESS

- ✓ Review emergency response procedures with staff.
- ✓ Conduct periodic drills to test emergency protocols.

## DOCUMENTATION AND REPORTING

- ✓ Maintain detailed records of process parameters and test results.
- ✓ Submit required reports to regulatory authorities on time.

## STAFF TRAINING AND QUALIFICATIONS

- ✓ Ensure all operators are adequately trained and certified.
- ✓ Train personnel on chemical safety protocols.
- ✓ Provide ongoing training and professional development opportunities.

## SAFETY

- ✓ Ensure the SOP contains OSHA safety standards for Personal Protective Equipment (PPE).
- ✓ Ensure the SOP contains safety requirements for potential hazards such as confined space and lockout tagout.
- ✓ Provide information about chemical handling and permissible exposure limits (PELs).

## ENVIRONMENTAL COMPLIANCE

- ✓ Regularly review and update SOPs to meet changing regulations.
- ✓ Monitor and document compliance with environmental permits.

Remember that this checklist is not exhaustive and should be adapted and expanded based on the specific processes and systems present in your wastewater treatment plant. Additionally, involve your plant's operators and management in creating and refining the checklist to ensure it is practical and effective in maintaining efficient and compliant operations.

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