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Sewage Treatment Plant Operation and Maintenance Training Course

11 – 15 October 2027
Singapore

Sewage Treatment Plant Operation and Maintenance Training Course

Ref: 544_20169 **Date:** 11 – 15 October 2027 **Location:** Singapore **Fees:** 9300 GBP

Sewage Treatment Plant Operation and Maintenance is a 1-week training course for plant operators, maintenance technicians and utility supervisors who keep screens, pumps, aeration and clarifiers running, and who leave with a Plant Operation and Maintenance Checklist for their works. Growing populations and stricter effluent limits now push ageing plants harder every year. Jupiter Prime Training delivers this course for practitioners responsible for day-to-day sewage works performance.

Why Sewage Treatment Plant Operation and Maintenance Matters Now

Three pressures shape sewage treatment plant operation and maintenance today: rising inflows from growing towns and industrial estates, effluent quality targets that leave little room for upsets, and ageing mechanical equipment that fails when routine care slips. A works with disciplined operation and planned maintenance keeps effluent compliant and odours low; one that runs equipment to failure faces spills, complaints and costly emergency repairs. The course rests on the conventional treatment sequence of preliminary, primary, secondary and tertiary stages, on activated sludge process control, and on planned preventive maintenance PPM practice.

Who Gains Most from Sewage Treatment Plant Operation and Maintenance

- Operators who run inlet works, aeration basins and clarifiers on shift
- Maintenance technicians who service pumps, blowers, screens and scrapers
- Supervisors who plan shift routines and report effluent results
- Laboratory staff who test influent, mixed liquor and final effluent
- Utility engineers who oversee several small and medium sewage works

A works that sends an operator, a maintenance technician and a shift supervisor together gains most, because they leave sharing one checklist for daily checks, sampling and equipment care.

Sewage Treatment Plant Operation and Maintenance Capabilities

Participants move from reacting to alarms and breakdowns to running each stage of the works with routine checks, process readings and planned equipment care.

- Assess raw sewage strength and flow patterns from inlet readings — supervisors planning shift loads
- Apply screening, grit removal and primary settling routines — operators protecting downstream equipment
- Calculate settleability, mixed liquor and return sludge settings for activated sludge — shift teams keeping biology stable
- Specify preventive maintenance tasks for pumps, blowers and clarifier drives — maintenance planners
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Test chlorination and effluent quality before discharge — laboratory staff reporting results

Key Sewage Treatment Plant Operation and Maintenance Terms

- Preliminary treatment — screening and grit removal that protect pumps and tanks from rags, plastics and sand.
- Primary settling — gravity removal of settleable solids and grease before biological treatment.
- Mixed liquor — the blend of sewage and activated sludge in the aeration basin.
- Settled sludge volume — a simple jar test showing how well activated sludge settles in thirty minutes.
- Return activated sludge — settled biomass pumped back from clarifiers to keep the aeration basin populated.
- Planned preventive maintenance — scheduled inspections and servicing that keep equipment running before faults develop.

Sewage Treatment Plant Operation and Maintenance Day by Day

Day 1: Sewage Flows and Plant Layout

- Sewage and Effluent Characteristics — Reading Strength, Flow and Daily Peaks
- Treatment Stage Sequence — Tracing Flow From Inlet to Outfall
- Effluent Quality Targets — Linking Discharge Limits to Daily Checks
- Plant Walk-Down Routines — Spotting Early Signs of Trouble
- Safety in Confined Spaces and Gas Hazards — Protecting Crews on Site

Day 2: Preliminary and Primary Treatment

- Inlet Screens and Screenings Handling — Preventing Rag Blockages
- Grit Channels and Classifiers — Protecting Pumps From Abrasion
- Raw Sewage Pumping Stations — Managing Wet Wells and Duty Cycles
- Primary Tank Desludging — Setting Scraper and Withdrawal Routines
- Fats, Oils and Grease Removal — Reducing Downstream Scum Problems

Day 3: Activated Sludge Operation

- Aeration Basin Dissolved Oxygen — Adjusting Blowers and Diffusers
- Settleability and Sludge Volume Index Tests — Judging Biomass Condition
- Return and Surplus Sludge Pumping — Keeping Mixed Liquor Steady
- Final Clarifier Blanket Checks — Preventing Solids Loss
- Foam and Bulking Signs — Recognising Process Upsets Early

Day 4: Sludge Handling and Disinfection

- Sludge Thickening and Dewatering Units — Running Belt Presses and Centrifuges
- Anaerobic Digester Checks — Monitoring Temperature, Gas and Alkalinity
- Chlorine Contact Tank Operation — Holding Residual and Contact Time
- UV Disinfection Unit Care — Cleaning Lamps and Sleeves
- Effluent Sampling and Laboratory Tests — Confirming Discharge Quality

Day 5: Practising the Plant Operation and Maintenance Checklist

- Applying Inlet Works Routines — Setting Daily Screen and Grit Checks
- Applying Activated Sludge Controls — Fixing Oxygen and Sludge Targets
- Applying PPM Schedules — Planning Pump, Blower and Scraper Servicing
- Equipment Troubleshooting Drills — Diagnosing Pump, Blower and Scraper Faults
- Plant Operation and Maintenance Checklist — Presenting Daily, Weekly and Monthly Tasks

Applying Sewage Treatment Plant Operation and Maintenance After the Course

- Lead a walk-down of the works with a daily checklist and record the screens, pumps and clarifiers that need attention.
- Run settleability tests for two weeks and use the results to adjust return and surplus sludge pumping with the shift team.

Sewage Treatment Plant Operation and Maintenance Questions FAQ

What is sewage treatment plant operation and maintenance and why does it matter now?

Sewage treatment plant operation and maintenance is the daily running and care of screens, pumps, aeration, clarifiers, sludge and disinfection units. It matters now because higher inflows and stricter effluent limits leave little margin for breakdowns and process upsets.

Which roles gain most from sewage treatment plant operation and maintenance training?

Plant operators, maintenance technicians and shift supervisors gain most from sewage treatment plant operation and maintenance training. Laboratory staff testing effluent also benefit.

How does sewage treatment plant operation and maintenance differ from an industrial wastewater treatment course?

Sewage treatment plant operation and maintenance covers municipal works, their equipment and daily routines. An industrial wastewater treatment course deals with variable, toxic effluents from refineries and factories and with upgrade engineering.

What do you bring back from sewage treatment plant operation and maintenance training?

You bring back a Plant Operation and Maintenance Checklist for your works. It lists daily, weekly and monthly checks, sampling routines and equipment servicing tasks.

Sewage Treatment Plant Operation and Maintenance: The Way Forward

The Plant Operation and Maintenance Checklist first informs which checks each shift completes and which equipment is serviced first. Operators, technicians and supervisors use it to share one routine across shifts. After the first month, revisit the checklist against breakdown records and effluent results, at a town sewage works or an industrial estate plant alike.