

# **BEST PRACTICE IN SEWAGE & INDUSTRIAL WASTE WATER TREATMENT & ENVIRONMENTAL PROTECTION**



CONTACT US ON:

T: +971 7 2042072 | Email: [training@maestrouae.net](mailto:training@maestrouae.net)

Website: [www.maestrouae.net](http://www.maestrouae.net)

**TRAINING TITLE**

BEST PRACTICE IN SEWAGE & INDUSTRIAL WASTE WATER TREATMENT & ENVIRONMENTAL PROTECTION

**VENUE**

Dubai, UAE

**DURATION**

5 Days

**DATES**

19 - 23 December 2021

**PRICE**

US\$4,000 per attendee including training material/handouts, morning/afternoon coffee breaks and Lunch buffet.

**TRAINING INTRODUCTION**

The quality of groundwater used cannot be compromised any longer and the servicing requirements of on-site sewage disposal systems cannot be ignored. With limited funds available to you - the private owner or regulatory agency that has responsibility for inspection, the task of on-site sewage treatment and disposal is becoming very difficult.

Industrial wastewater dischargers face a variety of enforcement actions if they are not in compliance with the USA Clean Water Act. This is the case if the discharger is a direct industrial discharger, or is an indirect discharger into a Publicly Owned Treatment Works (POTW). This course covers the regulations that affect the management of industrial wastewater permitting, effluent guidelines, and associated issues.

**TRAINING OBJECTIVES**

This course will cover all aspects of sewage and industrial waste treatment process. It will cover planning, design, construction, operations and maintenance of the modern sewage and effluent treatment plants. Further, this course will cover all aspects of Environmental Protection in Industrial Plants.

With limited funds available to the owners we believe this course will help you to install an effective system. You will learn numerous tips and tricks throughout the course to make it very practical and relevant to your applications.

## **TRAINING AUDIENCE**

- Environmental managers, engineers and environmental professionals
- Operations, maintenance, inspection and project managers, supervisors and engineers
- Plant, Mechanical, Maintenance and Design engineers, technicians and staff
- Municipal planners & engineers
- Laboratory Staff
- Anyone responsible for managing and operating sewage treatment facilities
- Anyone involved with making decisions about the discharge of any industrial pollutants into water should attend this course. The course provides the tools needed to determine compliance with the requirements of their job. The course is designed for industrial wastewater compliance managers and supervisors

## **TRAINING OUTLINE**

### **Day I**

Registration and Coffee

**Welcome, Introduction, Workshop Preview, Learning Outcomes and the Assessment Method**

### **Wastewater Sampling and Testing**

- Selected parameters in wastewater treatment
- pH, DO, T
- Suspended solids
- Fat, oil and grease (FOG)
- Biochemical oxygen demand (BOD), and chemical oxygen demand (COD)
- Total Kjeldahl Nitrogen (TKN) and ammonia
- Total phosphorous
- Nitrate and nitrite
- Residual chlorine
- Sampling and testing for small plants

## **Industrial Wastewater Treatment - Pretreatment and Primary Treatment**

- Microbiology fundamentals in wastewater treatment
- Pretreatment : equalization flow, pH
- Primary treatment: solids removal

## **Industrial Wastewater Treatment - Secondary Treatment**

- Bioreactors
- Aeration concepts and types of aerators
- Types of treatment processes: activated sludge treatment, rotating biological contactors and trickling filters, fluidized bed bioreactors
- Rudimentary technologies: septic tanks and lagoons/stabilization ponds

## **Adjournment**

## **Day 2**

## **Industrial Wastewater Treatment - Tertiary Treatment**

- Biological nutrient removal
- Nitrogen removal
- Phosphorus removal: chemical phosphorous removal , coagulation and flocculation concepts, biological phosphorous removal
- Filtration fundamentals
- Membranes
- Disinfection fundamentals

## **Advanced Wastewater Treatment - Reverse Osmosis (RO)**

- Applications of membrane technologies
- RO principles
- RO applications

## **Advanced Wastewater Treatment - Ion Exchange**

- Ion exchange principles
- Ion exchange applications
- Ion exchange issues

## **Advanced Wastewater Treatment – Advanced Oxidation**

- The case of pharmaceuticals and endocrine disruptors in wastewater

## **Adjournment**

## **Day 3**

## **Advanced Wastewater Treatment – Disinfection Processes**

- Chlorination
- Ozonation
- Membranes as pathogen removers
- Ultraviolet and peroxide/ultraviolet processing

## **Sludge Treatment**

- Aerobic treatment (ATAD processes)
- Anaerobic digestion

## **Characteristics of Effluents**

- Chlorine/ammonia discharge requirements

## **Discharge into Receiving Systems**

- Potential impacts of effluent discharge into receiving water bodies

## **Infraguide Best Practices**

## **Adjournment**

## **Day 4**

## **Practical Exercises Related to Centralized and Decentralized Wastewater Treatment Plants**

- Conventional wastewater treatment
- Advanced wastewater treatment

## **Day 5**

## **Environmental Management of Industrial Waste Water Treatment**

- Introduction to ISO 14001 (Environmental Management System) and what it can and cannot do
- The elements of ISO 14001 and its relationship with ISO 9001 (Quality Management System)
- Some typical Hazardous Waste Regulations and the need for harmonization
- Life Cycle Management of Industrial Waste Water treatment
- The importance of documentation in Waste Water treatment

## **TRAINING CERTIFICATE**

**MAESTRO CONSULTANTS** Certificate of Completion for delegates who attend and complete the training course

### **METHODOLOGY**

Our courses are highly interactive, typically taking a case study approach that we have found to be an effective method of fostering discussions and transferring knowledge. Participants will learn by active participation during the program through the use of individual exercises, questionnaires, team exercises, training videos and discussions of “real life” issues in their organizations. The material has been designed to enable delegates to apply all of the material with immediate effect back in the workplace.