

FOSTERING AND ADVANCING SUSTAINABLE BUSINESS AND RESPONSIBLE INDUSTRIAL PRACTICES IN THE CLOTHING INDUSTRY IN ASIA

TRAINING PROGRAM FOR OPERATORS OF EFFLUENT TREATMENT PLANTS

PROGRAM - DAY 4

VISIT TO A PRIMARY ETP OR COMBINED ETP WITH PRIMARY TREATMENT

Theme: *During my classes I learn about it, but I understood it when I saw it myself!*

Name of the ETP: TBD

Resource person & ETP contact person: TBA

Expected outcome from the day : Participants to observe the operation, maintenance & monitoring of a primary ETP, including sludge management in person and also interacting with ETP management.

Time	Topics	Responsibility
- 10.00 hrs	Arrival at the ETP	Trainers
10.00 -10.30	<p>Introduction by Factory personnel : Compliance manager, ETP manager</p> <ul style="list-style-type: none"> • Short overview about the ETP including year of establishment. • Salient information regarding the capacity, land requirement, chemicals used and performance of the ETP. 	Resource person, ETP Compliance manager
10.30-10.45	Tea, Coffee	
10.40-12.45	<p>Walkthrough the ETP: First part</p> <p><u>Checklist: Locations to be visited, points to be noted</u></p> <ul style="list-style-type: none"> • Effluent collection lines, covering, protection of channels, manholes and cleaning. • Screens: manual, specifications, frequency of cleaning, quantity of screenings collected. • Mechanical screen: specifications, construction, operation, and efficiency of the unit. Maintenance of the screen • Raw effluent collection: unit, function and maintenance. • Raw effluent pumps: type, numbers, quality, capacity, redundancy, MoC, condition • Equalisation tank: type, retention time, type of aeration system, diffuser material, any observation of dead spots, 	Resource person, ETP in-charge

	<p>torn diffusers-coarse bubbles, levels maintained, Blower nos., type, capacity, condition,</p> <ul style="list-style-type: none"> • Equalised effluent transfer pumps: numbers, type, quality, capacity, redundancy, MoC, condition, flow control system. • Chemical treatment: coagulant type & dosages, flocculant type & dosages, slurry concentration , HRTs, mixing systems, MoC of mixer Dosing control system, pH maintained, acid dilution, mixing uniformity • Primary settling: System type, HRTs, rotational speed (if it is clarifier), sludge evacuation frequency, solids loading rate, surface loading rate, underflow concentration, overflow uniformity, clarity of overflow, skimmer • Tertiary treatment: Type, units and details. • Colour removal agent-dosage, concentration and effect, • Thickener: System type, HRT, SRT, rotational speed percentage of inlet sludge and thickened sludge 	
13.00-14.00	Lunch	
14.00-15.30	<p>Walkthrough the ETP: Second part</p> <p><u>Checklist: Locations to be visited, points to be noted</u></p> <ul style="list-style-type: none"> • Sludge dewatering mechanism: Type of mechanism, inlet solids content, dewatered DSC, PE-dosage, slurry concentration & consumption, cycle time, Feed pump-pressure, VFD and rate, Filtrate or centrate clarity, solids content, qty of dewatered • Sludge maturation: Days stored, input DS, Output DS, method of disposal, qty • MCC room & controls: Control system, Isolators, SCADA, PBS, Indicators, Cooling system, meters, spare. • Laboratory : Tests conducted, background of chemists, glassware, reagents, instruments, lab standards. If possible, some Jar test demonstration in the lab. 	
	<p>Post visit meeting</p> <ul style="list-style-type: none"> • Concluding meet with ETP in charge: obtain additional information/clarifications as needed. • Vote of thanks to the ETP. 	
16.00	Departure from ETP	