

DEUTSCHE GESELLSCHAFT FÜR INTERNATIONALE ZUSAMMENARBEIT (GIZ)
 FOSTERING AND ADVANCING SUSTAINABLE BUSINESS AND RESPONSIBLE INDUSTRIAL PRACTICES IN
 THE CLOTHING INDUSTRY IN ASIA

TA-01 : TRAINING OF TRAINERS

TRAINING PROGRAM FOR OPERATORS OF EFFLUENT TREATMENT PLANTS

VISIT TO ETP AT ZABER & ZUBAIR, TONGI, 14 March 2022

CHECK-LIST FOR THE ETP VISIT

(To be submitted on 15 March 2022)

Name of the participant:

Information	Parameter	ETP-1	ETP-2
ETP Capacity			
ETP Supplier			
Screens	No. of manual screens, bar size (mm)		
	Frequency of cleaning		
	No. of mechanical screen, pore size (mm),		
	Type of screen (<i>drum/ brush/mechanical bar</i>)		
	Quantity of screenings collected.		

Equalisation tank	Eq. T type (circular/rectangular)		
	Volume (m ³) and retention time (hrs)		
	type of aeration system (<i>surface/submerged</i>)		
	Diffuser: type (<i>disc/tubular</i>), Nos.		
	Diffuser sheet material:		
	any dead spots?		
	Any coarse bubbles/torn diffusers?		
	Minimum water levels maintained (m)		
	Aerator/Blower: type, nos., capacity (HP)		
Equalised effluent transfer pumps	Type of pumps (<i>centrifugal/submersible</i>)		
	Numbers : Working & Standby		
	Capacity: m ³ /h, motor power: HP		
	Pumping control : manual / level switch/ automatic		
Neutralisation	Dosing control system : Manual/Automatic		
	pH maintained after neutralization		
	Type & Concentration of acid dosed		

Cooling tower	Number of cooling towers		
	Inlet & outlet temperature		
	Blower speed & power		
Aeration tank	Type of the tank (<i>Rectangular/Circular</i>)		
	Total retention time (hrs)		
	Total power consumption per m ³ of effluent treated		
	Make of diffusers:		
	Type of diffuser (<i>tubular/disc</i>), number of diffusers		
	Dead spots/coarse bubbles observed		
	Sludge settling volume in 30 minutes		
	MLSS maintained mg/l		
	Nutrient dosed, type & quantity used per day		
	DO maintained in the aeration tank, mg/l		

Blowers	Number of blowers (W/S)		
	Capacity (m ³ /h) and HP of each blower		
	Automatic DO control (<i>Present/absent</i>)		
	Air pressure by blower, kg/cm ²		
	Make & type of blowers		
Secondary clarifier	Type of secondary clarifier (<i>circular/ tube settler</i>)		
	Retention time provide in the tank, hrs		
	RAS, quantity and percentage maintained		
	TSS in return sludge concentration, mg/l		
	Any issues with sludge settling in the tank		
	WAS, quantity wasted per day and % of RAS wasted		
	Nature of treated effluent : clear /turbid/coloured		
Secondary sludge pumps	Type of pumps (<i>centrifugal/submersible</i>)		
	Numbers (working/standby), W/S		
	Capacity: m ³ /h, motor power: HP		

Sludge Thickener	Present/absent:		
	System type (<i>with mechanism/without mechanism</i>)		
	Retention time of sludge in the tank: hrs		
	Percentage of inlet sludge and thickened sludge (%)		
Sludge dewatering	Mechanical system/ sludge drying beds		
	Capacity (kg/ cycle, kg/day) and make of the sludge dewatering unit present		
	No. of units and details (capacity of unit)		
	Solids content : inlet slurry, dewatered cake (%)		
	Usage of any conditioning chemical : Name & dosage		
	Feed pumps : nos., capacity and pressure.		
	Quantity of dewatered sludge per day (kg)		
Sludge maturation	Present /absent		
	Period of sludge storage (months)		
	Moisture content in sludge after maturation (%)		
	Final disposal method		

Laboratory	In house lab - Present/absent:		
	Tests conducted (<i>pH, TSS, TDS, BOD, COD, colour</i>)		
	Any other parameters tested:		
	Bacteriological tests, if any:		
	Heavy metal tests, if any		
Online monitoring	Present/absent:		
	If yes, what are the parameters tested online		
ETP control	Manual /automatic/semi-automatic		
	If not manual, details of control system		
Record keeping (Do not ask to show any records)	How many records are maintained (<i>Just give the type of records maintained</i>)		

Submission date & time:

Signature of the Trainee: