# TRAINING PROGRAMME FOR ETP OPERATORS IN TEXTILE INDUSTRY

Promotion of Sustainability in the Textile and Garment Industry in Asia - FABRIC





## **Role and responsibilities of ETP operator**

#### **GIZ FABRIC – ETP Operator Course**



Contents

Characteristics of good ETP operators

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### Characteristics of good ETP operators

#### **Common good practices**

- maintaining records and present these as proof of good work.
- staying alert and working safely, with understanding of accidents always being unexpected.
- being clear and aware about what to do, the reason of taking particular action and outcome of the action.
- having and acquiring knowledge about whole ETP and not only specific units
- being open to learning new skills and gaining new knowledge



#### Common tasks of ETP operators

- Switching on and off ETP units at and for right time
- Preventing overflows inside ETP or of drains as well as effluent stagnation (→ avoiding creation odour nuisance and health hazards).
- Keeping screens clean by promptly removing screenings
- Operating equipment motors at recommended levels avoiding overheating and vibrations
- Maintaining pH control and equalized quality of wastewater leaving physical treatment.
- Ensuring optimum chemical dosage and timely removal of sludge.



#### Common tasks of ETP operators

- Maintaining favorable conditions for biological treatment (e.g. levels of DO, MLSS, RAS/WAS, nutrients etc.)
- Managing foaming in aeration tank and sludge floating in clarifier.
- Managing proper dewatering and disposal of sludge
- Recording relevant data in log sheets.
- Carrying out routine maintenance of ETP units including oiling & greasing.



#### Common challenges encountered by ETP operators

- Factory management not knowledgeable about or interested in ETP operations
- Low appreciation of work in ETP by management
- Low image about ETP work (ETP = "dirty place")
  - Same view by many ETP operators  $\rightarrow$  low motivation to clean ETP
- Strong impact of factory operations on ETP → Failure (batch fail, pipeline burst) in production directly impacting ETP performance
- ETP operation to be maintained 24 hours, even if production stops
- Numerous safety & health risks in ETP operations



### Creating appreciation for work of ETP operators

#### Some ideas

- Perfectly managing ETP to meet all performance criteria
- Preventing ETP breakdowns (→ ensuring uninterrupted operations)
- Maintaining clean ETP to be worth being presented to any buyers, visitors, factory and DOE inspector visitors
  - Cleanliness
  - Growing and grooming flowers and plants at ETP
- Be proud of your achievements (and talk about it!)
- Report and talk about good performance (e.g. signboards) and achievements

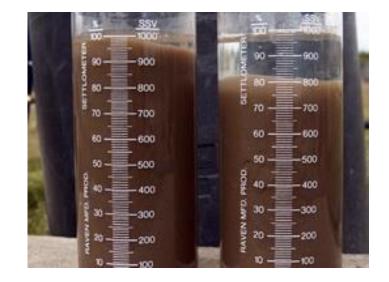




### Moving ahead as ETP operator

#### Some ideas

- Join training courses dealing with ETP operation as main subject
- Even if fully qualified and trained, join **refresher training** courses
- Keep yourself up-to-date on new developments and requirements on pollution control (e.g. newspapers, TV, blogs)
- Interact with technical experts visiting your ETP and try learning as much as possible
- Consider a distance education diploma in wastewater management to enhance your qualification levels
  - See ZDHC requirements



### Moving ahead as ETP operator

#### Some ideas (contd.)

- Search for additional information on internet.
  - Thousands of videos about ETP operation, many in Bangla (see YouTube)
- Participate in technical groups of ETP operational staff sharing useful information on social media (e.g. Whatsapp, Facebook...)
- Read good books or articles on pollution control (e.g. ETP operation, control, maintenance and monitoring)
- Refer to publications by DoE and various organisations (e.g. GIZ)



### Be assertive and proud of your role as ETP operator

# Before changing others' mind-set about your job as ETP operator, first change your mind-set!

- 1. ETP operator not demeaning or boring job without importance
- 2. Good working ETP crucial for survival of entire factory
  - Poor performance of ETP resulting of closure of factory.
- 3. ETP operator highly skilled job not easily replaceable
- 4. ETP playing important role beyond boundary of factory:
  - Preserving ground and surface water resources
  - Avoiding degradation of land





#### **Personal routines**

- Upon entering workplace, make sure
  - change into work uniform,
  - keep work uniform clean and
  - store nicely when leave workplace.
- Keep small diary to note down and remember important developments & points needing your attention.
- Properly use safety gadgets & PPEs as provided for job



#### **General work routines**

- Consult with relieving operator about major developments in previous shift.
  - Any breakdowns or accidents either needing special mention or already resolved
  - Any unfinished work from previous shifts to be completed
- Keep your reliever operator informed too



#### **Specific work practices**

- Make effort to keep ETP clean and remove any litter in area.
  - Sweep any sand and silt off pathways as well as keep clean and dry.
  - Clean any foam marks on walkways using water jets.
- **Regularly check operations** of pumps & machines.
  - Check for any abnormal noise, jerks or vibrations.
  - If unusual symptoms, switch off unit immediately, switch on standby unit and inform maintenance staff.
- Check amperage of motors using a multimeter
  - Keep chart of permitted amperage for each pump and other motors as a reference (consult electrician for the same)



#### Specific work practices (contd.)

- Wear protective gloves before touching raw effluent or any chemicals for checking
  - Avoid burns from hot raw effluent
  - Protect skin from highly sensitizing or corrosive chemicals
- Keep beaker readily available for checking/demonstrating sludge volume in aeration tank.



#### **Preparing for visitors**

Consider visitor as opportunity to present yourself as a professional!

- Impress any visitor by having information about ETP readily available
- Train yourself being able to give brief speech about your ETP, covering
  - when installed,
  - capacity of ETPs,
  - what type of pollutants in effluent,
  - overview of treatment steps installed (primary, secondary or both), chemical dosages, what type of special treatment units
  - where effluent discharged and sludge disposed.





#### Preparing for visitors (contd.)

- Be prepared for usual questions
  - Typical questions by DoE officials: (i) Flow rate of the day, (ii) MLSS level or DO level in aeration tanks.
  - Typical question by technical visitors:
    - Capacity of plant
    - Land area occupied
    - DO/MLSS/RAS/WAS
    - how sludge being dewatered
    - moisture content before/after dewatering
    - where dried sludge disposed
    - how much nutrients added and why
    - what chemicals used and at what dosage and dosages fixed
    - what discharge standards and information on supplier of ETP system.





#### Preparing for visitors (contd.)

- For casual (non-technical) visitors:
  - usually content with your general speech and basic information such as capacity and standards being met.
  - explaining treatment process in simple terms.
- Always well received:
  - Demonstrating MLSS settling rate in beaker (be sure about proper sampling practices & wear gloves when handling wet beaker).
  - Demonstrating pH correctness (if needed; keep pH paper handy or digital meter ready)
  - Presenting updated records & log sheets ready





#### **Preparing for visitors (contd.)**

#### **BUT KEEP IN MIND**

 Avoid trying to manipulate records just to make look good → intelligent visitor will find it out in no time!





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