Homeowner Maintenance Course Outline

(6 Hours)

I. Health and Safety (20 Minutes)
- A. Exposure to pathogens
- B. Possible safety hazards
- C. Personal protective equipment
- D. Safety practices

II. Principles of Treatment (10 Minutes)
- A. Treatment and disposal requirements
- B. Pretreatment
- C. Aerobic digestion/clarification
- D. Disinfection
- E. Disposal

III. Testing and Reporting (30 Minutes)
- A. Biological Oxygen Demand, BOD_5/Total Suspended Solids, TSS
- B. Chlorine residual or fecal coliform analysis
- C. Required reporting and options
  1. Reporting required for any secondary treatment unit, per 30 TAC 285.7(d) and 30 TAC 285.91(12).
  2. Recommended report format shown in 30 TAC 285. Includes items inspected, repaired, replaced, complaints and test results where applicable.
- D. Testing and report frequency
  1. Test frequency set by 30 TAC 285.7(d)(1) and 285.91(12)
     - (a) Surface application, test and report a minimum of once every four months.
     - (b) Subsurface disposal, test and report a minimum of once every four months
     - (c) Reports must be submitted within 14 days of each compliance test per 30 TAC 285.7(d)(1).
     - (d) The required number of tests per year will be reduced from three to two per year if electronic monitoring and notification is used on the system. See 30 TAC 285.7(d)(3).
- E. Consequences of not completing tests and reports

1. Maintenance company subject to administrative penalties including fines and revocation of license or registration based on frequency and recurrence of violations.[See HB2510, TC 366.0515(k), (l) and (m).]
2. Owners not testing or reporting may be required to obtain a contract with a valid maintenance company.

F. Consequences of noncompliance
1. Owner required to achieve compliance by repairing malfunctions on a schedule determined by number and frequency of malfunctions per 30 TAC 285.70. Malfunctions include:
(a) Failing an effluent standard is an indication of a malfunctioning system.
(b) Inspection reports showing uncorrected physical conditions, complaints or nonfunctioning equipment indicates a malfunction.
(c) A system creating a nuisance is considered a malfunction. See 30 TAC 285.2(38) and (42).
2. Owner can be fined for non-compliance due to nuisance or malfunction.

G. More stringent requirements may be set by local Authorized Agents (i.e., limits and ranges on pH, SVI, etc...)

H. Record keeping

IV. Operating Your Aerobic Treatment System (60 Minutes, Manufacturer Specific)

A. Airflow
B. Feeding the system
1. Aerobic treatment systems are designed to digest domestic wastewater.
2. Items and substances that will cause an aerobic treatment system to malfunction, including water softeners.

C. Alarms
D. Extended absences
E. Observations
F. Parts replacement - parts required to maintain system certification
G. Emergency maintenance - regulatory considerations

V. Tools and Parts (60 Minutes)

A. Tools

1. Testing and diagnosis
   (a) Chlorine DPD field test kit (Not a swimming pool kit, get a kit which can measure down to 0.1 mg/L total chlorine).
   (b) Multimeter with adequate voltage ranges
   (c) Air pressure and airflow gauges
   (d) Graduated container for solids sampling tests
   (e) pH and DO test kits
   (f) Sample containers, labels and cooler
   (g) Sludge judge
2. Manufacturer required specialty tools
3. Common hand tools, including screwdrivers, pliers, cutters, wrenches, hacksaw, portable drill and wire brush.
4. Cleanup equipment including portable pumps, broom, putty spatula, buckets, water hose and floating solids skimmer net.

B. Parts

1. Manufacturer specified parts for field service
2. Miscellaneous electrical fittings
3. Plastic pipe fittings and supplies

C. Supplies

1. Appropriate containers for disposal of contaminated material
2. General site cleanup items including plastic trash bags, plastic bristle paint brushes.
3. General electrical and mechanical supplies: electrical tape, PVC Cement, nuts, bolts, washers

VI. Maintenance (3 Hours, Including Hands-on Demonstrations, Manufacturer Specific)

A. Scheduled/Preventive maintenance

1. Sludge volume index test (if applicable)
2. Inspection
3. Cleaning
4. Filter replacements
5. Alarm tests
6. Sludge wasting/removal/tank pumping

B. Troubleshooting

1. Electrical power and controls
2. Mechanical
3. Pneumatic and hydraulic

C. Certified parts replacement
D. Emergency maintenance
E. Disposal system maintenance - specifically related to the homeowner's disposal system