

Form 7-2 Operational Checklist: Aerobic treatment unit (ATU)

Service provided on: Date: _____ Time: _____ Reference #: _____
 Service provided by: Company: _____ Employee: _____
 Date of last service: _____ By: You Other: _____
 Date of last inspection: _____

NOTES

<p>1. Type of ATU:</p> <p><input type="checkbox"/> Suspended-growth <input type="checkbox"/> Attached-growth <input type="checkbox"/> Sequencing batch reactor <input type="checkbox"/> Combination attached/suspended-growth <input type="checkbox"/> Rotating biological contactor <input type="checkbox"/> Other: _____ a. Manufacturer: _____ Model #: _____</p> <p>2. Conditions at the ATU</p> <p>a. Evaluate presence of odor within 10 ft of perimeter of system: <input type="checkbox"/> None <input type="checkbox"/> Mild <input type="checkbox"/> Strong <input type="checkbox"/> Chemical <input type="checkbox"/> Sour</p> <p>b. Source of odor, if present: _____</p> <p>c. Was foam/residue observed outside the unit. Yes ___ No ___</p> <p>3. ATU access</p> <p>a. Located at grade. Yes ___ No ___</p> <p>b. If 'No', how deep is tank buried. _____</p> <p>c. Risers on tank. Yes ___ No ___</p> <p>d. Evidence of infiltration in the risers. Yes ___ No ___</p> <p>e. Lids securely fastened. Yes ___ No ___</p> <p>f. Lids in operable condition. Yes ___ No ___</p> <p>4. Venting/Air supply</p> <p>a. Air supply method: <input type="checkbox"/> Aspirator <input type="checkbox"/> Aerator <input type="checkbox"/> Compressor <input type="checkbox"/> Blower <input type="checkbox"/> Free air (go to 4.g)</p> <p>b. Operation: <input type="checkbox"/> Continuous <input type="checkbox"/> Timed (On: ___ min, Off: ___ min)</p> <p>c. Air supply unit operating properly. Yes ___ No ___</p> <p>d. Pressure at air supply unit: _____ psi</p> <p>e. Air flow at air supply unit: _____ cfm</p> <p>f. Air filter/screen: <input type="checkbox"/> Cleaned <input type="checkbox"/> Replaced</p> <p>g. Venting appears operable. Yes ___ No ___</p> <p>5. Aeration chamber</p> <p>a. Mixing in aeration chamber. Yes ___ No ___</p> <p>b. DO in aeration chamber: _____ mg/L</p> <p>c. pH in aeration chamber: _____</p> <p>d. Temperature in aeration chamber: _____</p> <p>e. Settability test: Settled ___%, Floating ___% in _____ min</p> <p>f. Biomass color in the aeration chamber: <input type="checkbox"/> Brown <input type="checkbox"/> Black</p> <p>g. Sludge pumping recommended. Yes ___ No ___</p> <p>6. Additional tasks for attached-growth: media evaluation</p> <p>a. Plugging. Yes ___ No ___</p> <p>b. Floating. Yes ___ No ___</p> <p>c. Media washed. Yes ___ No ___ If washed, indicate method used: <input type="checkbox"/> Air <input type="checkbox"/> Water</p> <p>d. Media replaced. Yes ___ No ___</p> <p>7. Clarification chamber</p> <p>a. Scum layer. Yes ___ No ___ If yes, thickness: _____ in</p> <p>b. Clear zone depth below outlet: _____ in</p> <p>c. Effluent screen/tertiary filter cleaned. N.A. Yes ___ No ___</p>	<p>2. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>3. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>4. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>5. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>6. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>7. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p>
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Form 6-1 Operational Checklist: Pump tank (PT)

Service provided on: Date: _____ Time: _____ Reference #: _____
 Service provided by: Company: _____ Employee: _____
 Date of last service: _____ By: You Other: _____
 Date of last inspection: _____

1. Type:
- Pump tank Siphon tank Surge/Flow equalization tank
 - Processing tank Recirculation tank Internal pump basin sump

- a. Pump intake depth: _____
2. Conditions at the pump tank
- a. Evaluate presence of odor within 10 feet of perimeter of system:
 None Mild Strong Chemical Sour
- b. Source of odor, if present: _____

3. Tank description
- a. Material: Concrete Fiberglass Plastic
- b. Capacity: _____ gal
- c. Surface area: _____ sq ft
- d. Operational depth: _____ in
- e. Gallons per inch (GPI): _____ gal/in

4. Tank access
- a. Access location: Inlet Outlet Center
- b. Located at grade. Yes ___ No ___
- c. If 'No', how deep is lid buried. _____
- d. Risers on tank. Yes ___ No ___
- e. Evidence of infiltration in risers. Yes ___ No ___
- f. Lids securely fastened. Yes ___ No ___
- g. Lid in operable condition. Yes ___ No ___

5. Current tank operating conditions
- a. Liquid level relative to outlet: _____ in
 At Above Below
- b. Maximum liquid level of tank (invert of inlet pipe): _____ in.
- c. Height at which alarm is activated as measured from top of maximum liquid level: _____ in
- d. Evidence liquid level has been higher. Yes ___ No ___
- e. Evidence liquid level dropped without pumping. Yes ___ No ___
- f. Evidence of continuous inflow. Yes ___ No ___
- g. Date of last pumpout: _____

6. Pump/Siphon
- a. Pump/Siphon under access. Yes ___ No ___
- b. Pull chain or rope present. N.A. ___ Yes ___ No ___

7. Discharge assembly:
- a. Anti siphon/air release device. Yes ___ No ___
- b. Backflow prevention (check valve) present. Yes ___ No ___
- c. Air release located below check valve. Yes ___ No ___
- d. Drain back device present. Yes ___ No ___
- e. Quick disconnect present. Yes ___ No ___
- f. Isolation valve present. Yes ___ No ___
- g. Inline filters present. Yes ___ No ___

8. Electrical components sealed and watertight. N.A. ___ Yes ___ No ___

9. Tank structural condition (evaluate if tank pumped):
- a. Appears to be watertight (no visual leaks). Yes ___ No ___
- b. Rebar exposed. Yes ___ No ___
- c. Corrosion present. Yes ___ No ___
- d. Spalling present. Yes ___ No ___

NOTES

2.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable
3.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable
4.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable
5.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable
6.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable
7.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable
8.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable
9.	<input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable

Form 6-2 Operational Checklist: Pump: Demand-dosed system (PDD) (Including siphons)

Service provided on: Date: _____ Time: _____ Reference #: _____
 Service provided by: Company: _____ Employee: _____
 Date of last service: _____ By: You Other: _____
 Date of last inspection: _____

System type: Pump Siphon

NOTES

1. Controls

- a. Type: Piggy back Control panel
- b. Controls operating properly. Yes _____ No _____
- c. Is enclosure watertight. Yes _____ No _____
- d. Alarm test switch working properly. Yes _____ No _____
- e. At time of inspection, control switch (HAND-OFF-AUTO) was set at:
 "Hand/Manual" _____
 "Auto" _____
 "Off" _____

f. Electrical meter readings:

	Reading (this)	Reading (last)	Difference	N.A.
i) ETM			min	
ii) Cycles/events			Events (NC)	

Calculate cycles/day: _____ [NC] / [Days] = _____ [CPD]

- g. Telemetry operational. N.A.: _____ Yes _____ No _____
 Type: _____

2. Pump/Siphon

- a. Siphon operating properly. N.A.: _____ Yes _____ No _____
- b. Pump operating properly. Yes _____ No _____
- c. Type of pump: Multi-stage Single-stage
- d. Amps measured: _____ amps
- e. Voltage measured: _____ volts
- f. Pump turns on/turns off. Yes _____ No _____

3. Water level sensors

- a. Type of water level sensor: Floats Pressure transducers
 Ultrasonic Other: _____
- b. Pump floats/sensors functioning properly. Yes _____ No _____
- c. Alarm float/sensor operating both audible and visible. Yes _____ No _____

4. Sensor settings:

Sensor Number*	Function	Operational	Set At**		Secured
			Inches	Datum	
1		Yes _____ No _____			Yes _____ No _____
2		Yes _____ No _____			Yes _____ No _____
3		Yes _____ No _____			Yes _____ No _____
4		Yes _____ No _____			Yes _____ No _____
5		Yes _____ No _____			Yes _____ No _____

* (Designate starting from bottom of tank)

** (Measurements are taken from a fixed point ("Datum") near the surface or bottom of float tree in inches)

5. Dose volume (DV)

- a. Pump Off -- Pump On = _____ in pumped (dose)
- b. GPI: _____ (Form 6.1 -- Item 3.e)
 _____ dose (in) x _____ GPI = _____ DV (gal)

1. Acceptable
 Unacceptable

2. Acceptable
 Unacceptable

3. Acceptable
 Unacceptable

Reference #: _____

6. Pump delivery rate (PDR)
- a. Dose volume (from Item 5): _____ gal
 - b. Verified pump run time "On": _____ min
- _____ gal pumped ÷ _____ min = _____ GPM
7. Total gallons
- a. Method to activate pump: Water added Lifted float
 - b. Total gallons (from elapsed time meter)
- [_____(PTR) - _____(LTR)] x _____(GPM) = _____ Total Gal
- OR Total gallons (from event/cycle counter)
- [_____(PCR) - _____(LCR)] x _____(DV) = _____ Total Gal
8. Gallons per day (GPD)
- a. _____ Total gal ÷ _____ No. of days = _____ Gal/day (GPD)

CPD: Cycles per day
 DV: dose volume
 ETM: Elapsed time meter
 GPI: gallons per inch
 GPM: gallons per minute
 GPD: gallons per day
 HAND-OFF-AUTO: Hand-Off-Auto Switch
 LCR: last cycle reading
 LTR: last time reading
 PCR: present cycle reading
 PDR: pump delivery rate
 PTR: present time reading

Form 7-6 Operational Checklist: DISINFECTION UNIT – ULTRAVIOLET LIGHT (DUUL)

Service provided on: Date: _____ Time: _____ Reference #: _____
 Service provided by: Company: _____ Employee: _____
 Date of last service: _____ By: You Other: _____
 Date of last inspection: _____

NOTES

<p>1. Power supply</p> <p>a. Dosing method: <input type="checkbox"/> Pressure dosed <input type="checkbox"/> Gravity fed</p> <p>b. Manufacturer: _____ Model #: _____</p> <p>c. Power supplied to the unit. Yes ___ No ___</p> <p>d. UV lamp 'ON'. Yes ___ No ___</p> <p>e. Electrical system is free of corrosion/damage. Yes ___ No ___</p> <p>f. Ballast replaced during this visit. Yes ___ No ___</p> <p>g. Last replacement date: ___ / ___ / ___</p> <p>2. UV controls</p> <p>a. Unit equipped with a lamp intensity sensor. Yes ___ No ___</p> <p>b. If so, what was intensity reading: _____</p> <p>c. Alarm present. Yes ___ No ___</p> <p>d. Alarm operating properly. Yes ___ No ___</p> <p>3. Contact chamber, lamp, and sleeve conditions</p> <p>a. Evidence of damage or leakage. Yes ___ No ___</p> <p>b. Contact chamber cleaned/flushed of solids. Yes ___ No ___</p> <p>c. Type of protective sleeve: <input type="checkbox"/> Quartz <input type="checkbox"/> Teflon <input type="checkbox"/> Other: _____</p> <p>d. Protective sleeve free of buildup. Yes ___ No ___</p> <p>e. Protective sleeve cleaned. Yes ___ No ___</p> <p>f. Protective sleeve replaced during this visit. Yes ___ No ___</p> <p>g. Date last replaced: ___ / ___ / ___</p> <p>h. UV lamp replaced during this visit. Yes ___ No ___</p> <p>i. Date last replaced: ___ / ___ / ___</p> <p>4. Influent characteristics</p> <p>a. Turbidity: _____ NTU</p> <p>b. Flow rate: _____ gpm</p> <p>c. Indicate wastewater characteristics that may compromise treatment: _____</p> <p>5. Control panel:</p> <p>a. Controls operating properly. N.A. _____</p> <p>b. Is enclosure watertight. Yes ___ No ___</p> <p>c. Alarm test switch operating properly. Yes ___ No ___</p> <p>d. At time of inspection, control switch was set to: N.A. _____ "Hand/Manual" _____ "Auto" _____</p> <p>e. If auto, setting: Time on: _____ (min) Time off: _____ (min)</p> <p>6. Housing unit: Location: _____</p> <p>a. Appears in good condition. Yes ___ No ___</p> <p>b. Leaks/Cracks present. Yes ___ No ___</p> <p>c. Excessive dust present. Yes ___ No ___</p> <p>7. Manufacturer's required maintenance performed. Yes ___ No ___ (If 'Yes', attach Manufacturers Inspection form to this report, if supplied)</p> <p>8. Lab samples collected for monitoring. Yes ___ No ___ Types of analysis: _____</p>	<p>1. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>2. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>3. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>4. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>5. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p> <p>6. <input type="checkbox"/> Acceptable <input type="checkbox"/> Unacceptable</p>
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Reference #: _____

- d. DO in clarifier: _____ mg/L
- e. pH in clarifier: _____
- f. Temperature in clarifier: _____
- g. Effluent odor after passing through unit:
 None Mild Strong
- h. Effluent color after passing through unit:
 Clear Brown Black
- i. Effluent turbidity: _____ NTU
- 8. Sludge return operating: Passive Active
 - a. If active, pump was checked manually. N.A. ___ Yes ___ No ___
 - b. If active, pump operating properly. N.A. ___ Yes ___ No ___
- 9. Control Panel: N.A. _____
 - a. Controls operating properly. Yes ___ No ___
 - b. Is enclosure watertight. Yes ___ No ___
 - c. Alarm test switch operating properly. Yes ___ No ___
 - d. At time of inspection, control switch was set to: N.A. _____
 "Hand/Manual" ___
 "Auto" _____
 - e. If auto, setting: Time On: _____ (min) Time Off: _____ (min)
- 10. Alarm(s): N.A. _____
 - a. Types: Air pressure High water Remote
 - b. Alarms operating. Yes ___ No ___
 - c. Alarm readings:

8. Acceptable
 Unacceptable

9. Acceptable
 Unacceptable

10. Acceptable
 Unacceptable

		Reading (present)	Reading (last)	Difference	N.A.
i.	ETM			hours	
ii.	Alarm Counter			Events (NC)	

- Elapsed time in alarm status: _____ (PTR) - _____ (LTR) = _____ Time (hours)
- Number of alarm events: _____ (PACR) - _____ (LACR) = _____ Events (number)
- d. Battery backup charged. N.A. ___ Yes ___ No ___
 - e. Telemetry operable. N.A. ___ Yes ___ No ___
11. Manufacturer's required maintenance performed. Yes ___ No ___
(If 'Yes', attach Manufacturers Inspection form to this report, if supplied)
12. Lab samples collected for monitoring. Yes ___ No ___
 Types of analysis: _____

ETM: elapsed time meter
 LACR: last alarm counter reading
 LTR: last time reading
 NC: number of cycles
 PACR: present alarm counter reading
 PTR: present time reading