NPDES CEI QUESTIONNAIRE - POTW's

A. General Information

1. Name of Plant

2. Owner of Plant

3. Mailing Address

4. Plant Location

5. Contacts at Plant:

NAME	TITLE	PHONE NO.

6. Permit # - Effective Date - Expiration Date

B Description of Plant

1. Treatment Processes

Wastewater Solids

2. Population Served

3. Age of Original Plant

4. Type of Sewer System

_ Combined _ Separate _ Both

5. Number of Lift Stations

6. Upgrades to Plant

Nature of Upgrade Date of Completion

7. Plant Flows

Design - Average Daily _____
Design - Maximum Daily _____
Hydraulic Capacity _____
Average Daily (Dry Weather) _____
Average Daily (Wet Weather) _____
Peak Flow (Wet Weather) _____

8. Name of Receiving Stream

9. Nature of Waste

% Sanitary _____
% Industrial _____
% Institutional _____

10. Describe toxicity Effects of Industrial Wastes (i.e.,continuous, intermittent or shock loads, no toxic effects).

11. Method of screenings disposal?

12. Method of grit disposal?

13. Method of scum/grease disposal?

14. Method of sludge disposal?

15. Stand-by power available?

16. Alarm System available for power or equipment failures

17. Does the POTW's files contain:

Spare Parts Inventory? ___

Major Equipment Specs? ___

Major Equipment Shop Drawings? ___

As-Built Drawings? ___

Parts and Equipment Suppliers? ___

Instructions for O&M of each item of major equipment? ___

O&M Manual? ___

Maintenance records/logs? ___

18. Describe the facility's preventive maintenance program and what kind of equipment/units it covers.

19. Describe the facility's program for calibrating instruments (other than laboratory, which are treated separately).

20. List any inoperative units, how long they have been out of service and why.

21. Describe any bypassing that has occurred during the past year.

22. Describe any hydraulic and/or organic overloads the plant has experienced.

23. Describe any permit violations that occurred during the past year.

24. Describe any problems reported by plant operator or other staff.

C. Self Monitoring Program for Permit

1. Describe sampling location(s) & parameters (do they agree with the permit?)

2. Describe method of sample collection (does it agree with the permit?)

3. What is the sampling frequency (does it agree with the permit?)

4. What sampling containers are used (are they consistent with 40 CFR Part 136?)

5. What method(s) of sample preservation is used (is it consistent with 40 CFR Part 136?)

6. What are the sample holding times (are they consistent with 40 CFR Part 136?)

7. Describe location and type of flow measurement and recording devices used. Is entire wastewater flow being measured? Is capacity of flow recorder sufficient?

8. Describe calibration program for flow measuring devices. Include frequency of calibration and date of last calibration.

9. Describe any problems regarding how the facility completes its DMRs (i.e., are averages and ranges and number of exceptions correctly determined?)

D. Laboratory Equipment and Capabilities

1. What laboratory performs sample analyses for DMR reporting?

2. What analyses does the lab perform?

3. What analytical methods are used? Are they EPA approved?

4. Provide a list of what instruments/equipment the lab has for these methods.

5. Is all of this equipment operable and does it appear to be operated in a proper manner?

6. In particular, are ovens, refrigerators, incubators, autoclaves, balances, pH and DO meters and thermometers in good working order?

7. Are the meters properly calibrated (in field or in lab)?

8. Have any chemicals or reagents exceeded their shelf life?

9. Are there any problems with the quality of the lab's water?

10. Are samples tested for chlorine, if necessary, and de-chlorinated? Are BOD samples re-seeded?

11. How often are lab instruments and equipment calibrated and maintained and who performs these tasks? Are there troubleshooting procedures in place?

12. Describe what documentation the lab has for equipment maintenance and calibration.

13. Does the lab have a QA/QC manual? Does it document the QA/QC procedures that it uses?

E. Request/Review the following records and reports

1. Laboratory bench sheets showing analyses dates, times, individual performing the analysis and method/technique used.
2. Laboratory forms showing analytical results and calculations performed to obtain those results.
3. Field sheets or chain of custody forms showing name of sampler(s) sampling date, time and exact location.
4. Monitoring records, including strip chart recordings, for flow, pH, DO, etc. or other instrument printouts.
5. Calibration and maintenance records for flow measurement devices, recorders and other monitoring equipment or instrumentation.
6. Calibration and maintenance records for laboratory equipment.
7. Laboratory QA records.
8. Operating logs for different treatment units or processes.
9. DMRs
10. Complaints from public
11. Correspondence between POTW and state
12. Correspondence between POTW and its consultants on plant design and performance
13. Receiving stream monitoring data
14. Records pertaining to sludge disposal
15. Sampling and analysis plan

OBSERVATIONS

PRELIMINARY TREATMENT - BAR SCREEN

___ Clogged Screen

___ Odors Present

___ Poor Housekeeping

___ Mechanical Problem(s)

___ Other Problems? (Describe)

COMMINUTION

___ Unit clogging

___ Flooding

___ Unshreddable Materials Present

___ Odors Present

___ Mechanical Problem(s)

___ Other Problems? (Describe)

OBSERVATIONS

PRIMARY TREATMENT

___ Primary Effluent Contains Excessive Solids/Turbidity

___ Floating Scum In Clarifier(s)

___ Floating Solids In Clarifier(s)

___ Septic Conditions (bubbles)

___ Excess sludge blanket

___ Odors Present

___ Unlevel Weir(s)

___ Skimmer System Ineffective or Inoperative

___ Sludge collection system inoperative

___ Weirs Fouled

___ Uneven flows to clarifier

___ Short Circuiting

___ Mechanical Problem(s)

___ Other Problems? (Describe)

OBSERVATIONS

SECONDARY TREATMENT

AERATION BASINS

___ Excessive White/Dark Foam

___ Mixed Liquor Too Light

___ Mixed Liquor Too Dark

___ Septic Odors Present

___ Short Circuiting

___ Plugged Diffusors

___ Inoperative mechanical aerators

___ Dead Zones

___ Unequal Flow Distribution

___ Other Problems? (Describe)

OBSERVATIONS

ROTATING BIOLOGICAL CONTACTORS

___ Differences in wastewater characteristics between units

___ Unequal flow distribution

___ Biomass (secondary) is too light or too dark (should be gray)

___ Biomass (tertiary/nitrification) is too light or too dark (should be light brown)

___ Odors present

___ Rotation uneven or improper speed

___ Excessive sloughing of biomass

___ Excessive solids accumulation

___ Insufficient residual alkalinity (nitrification system)

___ Mechanical problems

OBSERVATIONS

TRICKLING FILTERS

___ Fly nuisance

___ Odors present

___ Excessive ice build-up

___ Ponding

___ Uneven flow distribution

___ Excessive dead zones

___ Clogged nozzles

___ Clogged filter media

___ Non-uniform or broken filter media

___ Lack of biomass

___ Excessive biomass

___ Excessive sloughing of biomass

___ Mechanical problems

OBSERVATIONS

SECONDARY TREATMENT

FINAL CLARIFIERS

___ Bulking Sludge (clouds of fluffy sludge distributed throughout clarifier)

___ Rising Sludge/Clumping/Ashing (either large clumps or smaller particles(ash) of sludge that rise and possibly spread over the surface of the clarifier)

___ Deflocculation (small buoyant floc causing turbid effluent)

___ Pin Floc (small dense or compact floc suspended throughout moderately turbid tank contents and discharging over weir)

___ Straggler Floc (small, almost transparent, very light, fluffy, buoyant sludge rising to the surface but the effluent is clear)

___ Solids Washout/Unlevel Weirs

___ Floating Scum

___ Excess sludge blanket

___ Weirs Fouled

___ Odors Present

___ Unequal flow distribution

___ Short Circuiting

___ Mechanical Problem(s)

___ Other Problems? (Describe)

OBSERVATIONS

CHEMICAL COAGULATION/PHOSPHORUS REMOVAL

___ Improper dosage of coagulant

___ Inadequate mixing of coagulant and wastewater

___ High turbidity in settling tank effluent

___ Floc not settling

___ Mechanical failure in chemical feed system

OBSERVATIONS

MIXED OR DUAL MEDIA FILTERS

___ Excessive ponding

___ Clogging/Overloaded with solids/Excessive loss of head

___ Insufficient backwashing

___ Improper dosage to filter

___ Inadequate pretreatment

___ Insufficient or inappropriate use of coagulants (incl polymers)

___ Improper floc strength

___ Loss, shrinkage or relocation of media

___ Uneven flow distribution

___ Excessive dead zones

___ Mechanical problems

OBSERVATIONS

MICROSCREENS

___ Clogging/Overloaded with solids

___ Insufficient flushing (backwash) of solids from screen

___ Inadequate pretreatment

___ Fouling of the screen with grease or slime

___ Excessive variability in solids loading rate

___ Low strength chemically coagulated floc

___ Tears or holes in filter mesh

___ Mechanical problems

OBSERVATIONS

BIOLOGICAL NITRIFICATION

___ pH outside of normal range (7.5 - 8.0) or highly variable

___ DO too low (<1.0 mg/l)

___ Low temperature affecting efficiency

___ Short circuiting occurs

___ Other problems (describe)

BIOLOGICAL DENITRIFICATION

___ Insufficient (or excess) methanol

___ pH outside of normal range (6.0 - 8.0)

___ Excess sludge and/or nitrifying organisms

___ DO present

___ Low temperature affecting efficiency

___ Other problems (describe)

OBSERVATIONS

CHLORINATION

___ Excessive Solids In Chlorine Contact Tank

___ Insufficient chlorine residual

___ Short Circuiting

___ Odors Present

___ Mechanical Problem(s)

___ Other Problems? (Describe)

DECHLORINATION

___ Excessive Solids in SO_2 Dosing Tank

___ Short Circuiting

___ Odors Present

___ Mechanical Problem(s)

___ Other Problems? (Describe)

OBSERVATIONS

GRAVITY THICKENER

___ Excessive flow variability

___ Excessive build-up of sludge

___ Inoperative sludge collection system

___ Excessive floating solids or gas

___ Unlevel weir

___ Wiers fouled

___ Unequal flow distribution

___ Other problems (describe)

FLOTATION THICKENER

___ Sludge not floating properly

___ Excessive flow variability

___ Excessive sludge layer

___ Inoperative sludge collection system

___ Unlevel weir

___ Weirs fouled

___ Unequal flow distribution

___ Other problems (describe)

OBSERVATIONS

ANAEROBIC SLUDGE DIGESTION

___ Poor gas production (<13 ft^3/lb Vol. Solids)

___ Decrease in methane fraction (<50%)

___ Premature sludge withdrawal

___ Excessive odors

___ Inadequate mixing

___ Improper pH (<6.6 or >7.4)

___ Excessive volatile solids (>500 mg/l)

___ Non uniform feed or highly variable sludge quality

___ Toxic slug loading

___ Poor supernatant quality

___ Sudden temperature changes (>2-3°F)

___ Mechanical problems

OBSERVATIONS

AEROBIC SLUDGE DIGESTION

___ Diffusers clogged or inoperative

___ Mechanical aerators inoperative

___ Inadequate mixing

___ Inadequate sludge retention (<10-15 days)

___ Excessive odors

___ pH too low (<6.5)

___ DO too low (<1.0 mg/l)

___ Non uniform feed or highly variable sludge quality

___ Toxic slug loading

___ Excessive foaming

OBSERVATIONS

SPRAY IRRIGATION

___ Signs of erosion or runoff

___ Excessive ponding/clogging of soil

___ Plugging of nozzles or sprayers

___ Non uniform distribution of spray

___ Inadequate pretreatment

___ Odors present

___ Problems with storage of wastewater prior to spraying

___ Signs of stressed vegetation

___ Lack of vegetation

___ Mechanical problems with conveyance or spraying systems