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EPA

Evaluating Municipal Wastewater User Charge Systems

What You Need To Know

ABSTRACT

This guide is intended to provide the information you need to comply with EPA's construction grant user charge system regulations.

ACKNOWLEDGMENT

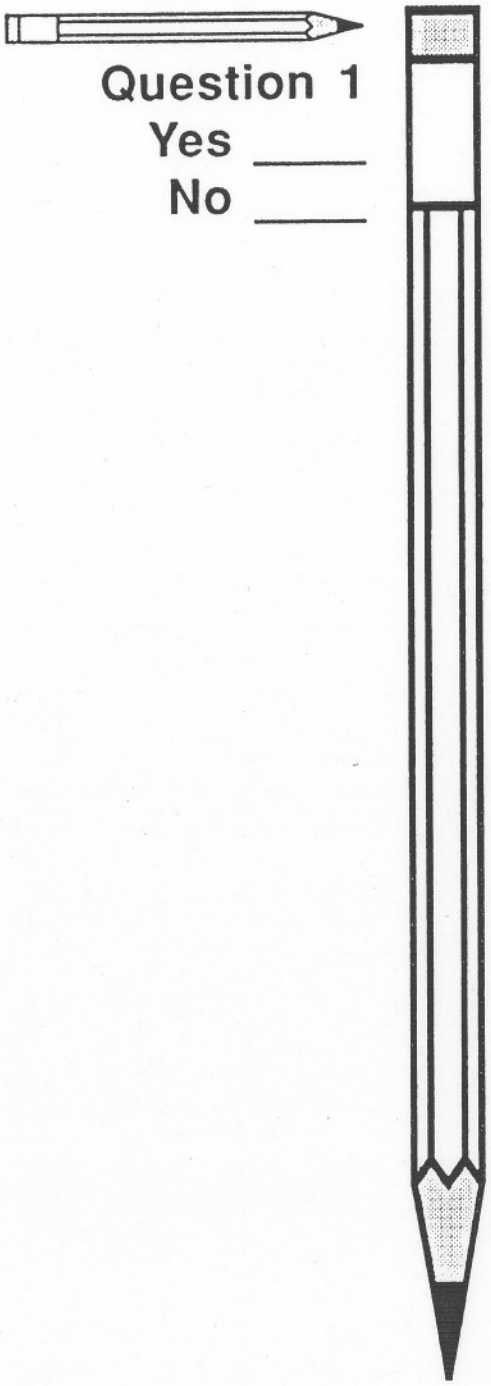
This booklet was prepared by Haig Farmer of the U.S. Environmental Protection Agency and Sharon Rollins and Sharon Fitzgerald of The University of Tennessee's Municipal Technical Advisory Service.

SHARPEN YOUR PENCILS!

You're reviewing a municipally owned wastewater operation. It's your job to determine if the operation's user charge system complies with applicable federal requirements.

This guide gives you the:

1. questions to ask while performing the review;
2. answers that are in accordance with the Code of Federal Regulations (CFR);
3. brief explanations, definitions of terms, worksheets, and tips on how to determine compliance;
4. a summary checklist; and
5. the CFR references.



Question 1

Yes _____

No _____

DO YOU NEED TO FOLLOW THIS GUIDE?

Maybe! Any wastewater facility that received U.S. Environmental Protection Agency (EPA) grant assistance for construction was required to have EPA's approval of the user charge system and sewer use ordinance.

If the utility received a grant from the EPA for wastewater facilities construction, answer *Yes* here and continue with the following questions.

If the utility didn't receive an EPA grant for wastewater facility construction, you can answer *No* and stop here. But, you may choose to use this guidance since it's based on sound financial principles and tips you'll find helpful in your review.

Reference - 40 CFR § 35.2122 and § 35.2208.

WHAT'S A USER CHARGE SYSTEM, ANYWAY?

A user charge system is how revenues are generated to cover the cost of operating a wastewater collection and treatment facility. The system is usually spelled out in a sewer use ordinance, which has been legally enacted by the governing body.

What types of user charge systems are acceptable for EPA grant-assisted wastewater facilities?

Either a user charge based on actual use or one based on ad valorem taxes is acceptable.

User charge systems based on actual use (or estimated use if there aren't water meters) are predicated on the notion that each customer receiving service pays for that service.

An ad valorem taxes user charge system gets the revenues for operating and maintaining the wastewater plant from property value assessments. Ad valorem taxes are seldom used to cover wastewater operating costs. But, they are allowed if they pass the following test:

___ the grantee had in effect on December 27, 1977, a revenue system that dedicated ad valorem taxes to pay for wastewater operation and maintenance costs;

___ the grantee has continued to use that system;

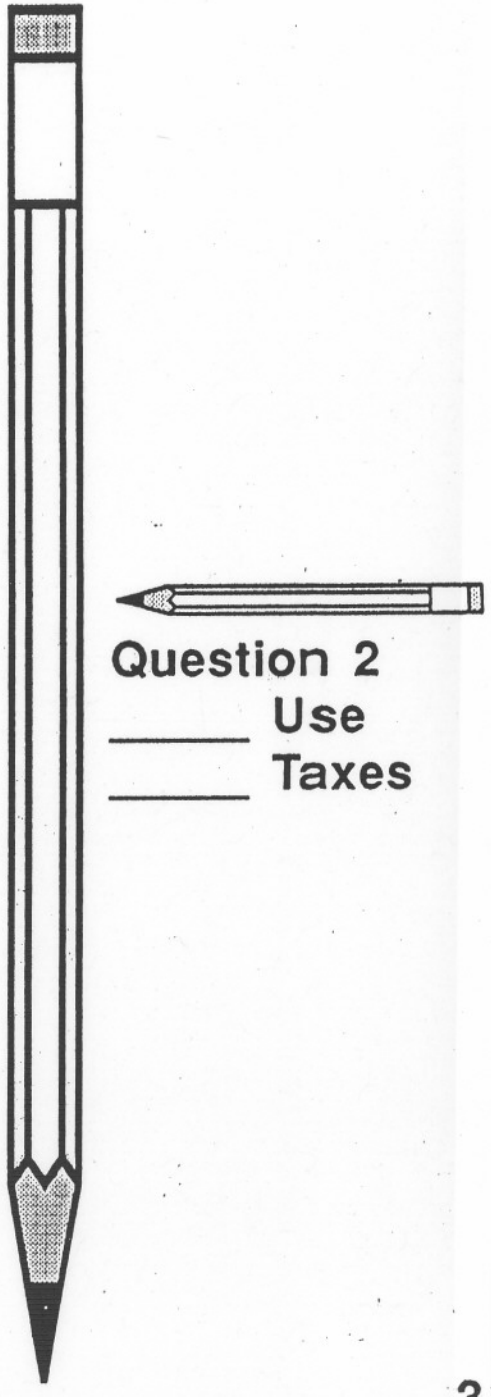
___ the ad valorem user charge system distributes costs in proportion to use for residential, commercial, and small (less than 25,000 gallons/day) industrial users; and

___ large commercial and industrial users (more than 25,000 gallons/day) pay based on actual use.

Is the utility's user charge system based on actual use or on ad valorem taxes?

Answer *Ad Valorem Taxes* only if all the conditions listed above have been met.

Reference - 40 CFR § 35.2140(a) and (b) and § 35.929-1(b); *User Charge Guidance Manual for Publicly-Owned Treatment Works*, EPA publication, 430-9-84-006.



WHY ARE FINANCIAL AND OPERATIONAL MANAGEMENT IMPORTANT?

Well-managed wastewater utilities are characterized by sound finances and good operations. Financial management includes control of all items that affect a utility's financial health. You'll need to look at revenues and expenses in detail to determine if there are enough revenues to cover operating costs. Also, evaluate the utility's operational management capabilities. Review items such as budgeting, purchasing procedures, staff training schedules, and regulatory compliance.

DO REVENUES COVER EXPENSES?

Take a close look at revenues and expenses. Wastewater utilities are a public service. They aren't in the business of making a profit, but they should be self-supporting. In other words, revenues and expenses should balance.

Revenues are all monies received for wastewater operations. They are:

- user service charges - the fees charged users for the collection and treatment of wastewater. They account for almost all of a system's total revenue.
- hookup/impact fees - charges for new customers connecting to existing sewer lines.
- taxes/assessments - special front footage or other annual charges.
- interest earnings - interest earned from investments like checking accounts, savings accounts, and treasury bills.
- other revenues, including sales of treatment byproducts such as composted sludge, and penalties charged for not paying the sewer bill on time.

Expenses are costs of operating, maintaining, replacing equipment, and paying debt service for a wastewater plant. It's very important to budget for equipment replacement. The CFR defines equipment replacement costs as "the costs of obtaining and installing equipment, accessories, or appurtenances during the useful life of the treatment works necessary to maintain the capacity and performance for which the facility was designed and constructed." Operating expenses don't include the purchase costs of new capital facilities like more treatment capacity or sewer lines. Operating expenses also exclude depreciation — the estimate of how much value the utility's plant and equipment lose in a given time.

Expenses include:

- salaries and benefits - the largest expense of most wastewater operations.
- utilities - the cost for electric, telephone, water, and gas service.
- chemicals.
- supplies and parts - lab supplies, gaskets, belts, lubricants, and so forth.
- contract services and professional services.
- administrative - the cost of providing facilities for conducting business: liability insurance, postage, and so forth.
- principal and interest - payments to retire debt and reserves for debt coverage ratios.

What are the total annual budgeted revenues for the wastewater operation?

TOTAL BUDGETED REVENUES	
User service charges	$
Hookup/impact fees	
Taxes/assessments	
Interest earnings	
Other	
Total Budgeted Revenues	$

What are the total annual budgeted expenses for the wastewater operation? Are expenses for equipment replacement budgeted?

TOTAL BUDGETED OPERATING EXPENSES	
Salaries and benefits	$
Utilities	
Equipment replacement fund	
Chemicals	
Supplies and parts	
Contract services	
Administration	
Principal and interest payments	
Other	
Total Budgeted Operating Expenses	$

What are actual revenues to date? How do they compare with budgeted revenues to date?

BUDGETED REVENUES VS. ACTUAL		
	$ Budgeted	$ Actual
Total Revenues		

What are actual expenses to date? How do they compare with budgeted expenses to date?

BUDGETED EXPENSES VS. ACTUAL		
	$ Budgeted	$ Actual
Total Operating Expenses		

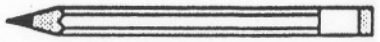
Does the wastewater utility show a cash flow problem?

ACTUAL REVENUES AND EXPENSES	
Total Revenues	$
Total Operating Expenses	(-)
Cash Available	$

Do revenues cover expenses of operation?

Answer *Yes* to question 3 only if the utility shows a positive cash flow and the equipment replacement fund has adequate reserves to cover long- and short-term equipment needs.

Reference - 40 CFR § 35.2140 and *A Water and Wastewater Manager's Guide for Staying Financially Healthy*, EPA publication 430-09-89-004.



Question 3

_____ Yes

_____ No

IS OPERATIONAL MANAGEMENT ADEQUATE?

Operational management affects a utility's financial health and its ability to provide adequate wastewater treatment services. To evaluate the utility's operational management capabilities, look at the entire utility operation — budgeting, financial reporting, operating and coverage ratios, purchasing, organizational structure, plant operations, and regulatory compliance.

Before the beginning of the budget year, the utility should prepare revenue and expense budgets. The wastewater budgets should be separate from other governmental utility budgets like water, garbage disposal, etc.

Question 4
Yes _____
No _____

Does the utility prepare an annual budget of wastewater revenues and expenses?

Periodic comparisons of budget vs. actual revenues and expenses are recommended. They are concrete evidence that the utility is either operating according to the budget plan or that adjustments to expenses or revenues are needed.

Question 5
Yes _____
No _____

Does the utility prepare actual vs. budgeted comparisons for revenues and expenses?

Does the wastewater budget show revenues and expenses by line item?

Question 6

_____ Yes

_____ No

The utility's operating ratio — the total revenues divided by total operating expenses — must be at least 1.0. It's important to examine the coverage ratio, too. The coverage ratio is:

$$\frac{\textit{(Revenues) - (Non-debt Operating Expenses)}}{\textit{(Annual Debt Service Expense)}}$$

The coverage ratio indicates whether the utility has enough revenue to pay its debt service on loans and still cover contingencies. A coverage ratio of 1.25 is common.

Does the utility maintain adequate operating and coverage ratios?

Question 7

_____ Yes

_____ No

Does the utility receive monthly accounting reports for revenues and expenses?

Question 8

_____ Yes

_____ No

Question 9

Yes _____

No _____

Does the utility maintain all records for at least four years?

Question 10

Yes _____

No _____

Does the utility have written operating policies and procedures?

___ A sewer use ordinance?

___ A pretreatment ordinance and enforcement response plan?

___ A policy for collecting delinquent wastewater bills?

___ Job descriptions, personnel policies, and performance review standards?

___ Purchasing procedures?

What type of organizational structure does the utility have?

___ A municipal authority,

___ a regional authority, or

___ a municipal department.

Does the organizational structure of the utility operate efficiently?

Notes:

Is the staff highly motivated and well trained?

Some clues to help you with this question are:

___ Is compensation adequate?

___ Are operators certified?

___ Is staff training provided periodically?

___ What is the personnel turnover rate?

___ Is absenteeism a problem?

Question 11

_____ Yes

_____ No

Question 12

_____ Yes

_____ No

Question 13

Yes _____

No _____

Does the wastewater treatment facility appear to be well operated?

Tour the wastewater treatment facility. A visual inspection will help you decide if operational management is adequate. Look for these clues:

___ Are grounds well maintained?

___ Are facilities clean and organized?

___ Is the laboratory neat?

___ Is all process equipment in working order?

___ Are operational and compliance records maintained?

___ Is equipment routinely maintained?

Question 14

Yes _____

No _____

Is the utility in compliance with its discharge permit? List any violations and their status:

List Violation:	Status:
_____	_____
_____	_____
_____	_____

Is operational management adequate?

Answer *Yes* to question 15 only if you're able to answer *Yes* to most of the questions in this section (questions 4-14).

Reference - 40 CFR § 35.2140(d) and *Managing Your Utility's Money*, EPA publication 430/09-91-014. *A Water and Wastewater Manager's Guide for Staying Financially Healthy*, EPA publication 430-09-89-004.

Question 15

_____ Yes

_____ No

WHY ARE PROPORTIONAL CHARGES IMPORTANT?

Next, look at the user charge rate structure. Does each user (or user class) pay its fair share of operation, maintenance, and replacement (OM&R)? Users who understand the value of wastewater service — and who feel they're being treated fairly in comparison to other users — are willing to pay for the service. Only user charge systems that *charge in proportion to use* comply with the regulations. Proportionate use of the sewer system includes consideration of discharge quality as well as discharge quantity.

To determine if the user charge rate passes the "fair share" test, examine the wastewater rate structure and answer questions 16 through 22.

Does each user receive a bill for services?

Question 16

_____ Yes

_____ No

All users should be identified and billed for wastewater services. Systems that allow some users to receive free service aren't treating paying customers fairly.

Question 17

Yes _____

No _____

Does the rate structure identify user classes?

Generally, utilities have four user classes: residential, commercial, industrial, and institutional. Which user classes are specified?

___ Residential
___ Commercial
___ Industrial
___ Institutional

Are lower rates allowed for low-income residential users?

The utility may (but isn't required to) establish lower user charge rates for low-income residential users if the utility:

1. gave a public notice of the proposed lower rates;
2. conducted a public hearing on this matter;
3. structured the lower user rates (for low-income customers) as a uniform percentage of the user rate charged other residential users; and
4. allowed the costs (of having lower user charge rates) to be absorbed proportionally by all other user classes.

Question 18

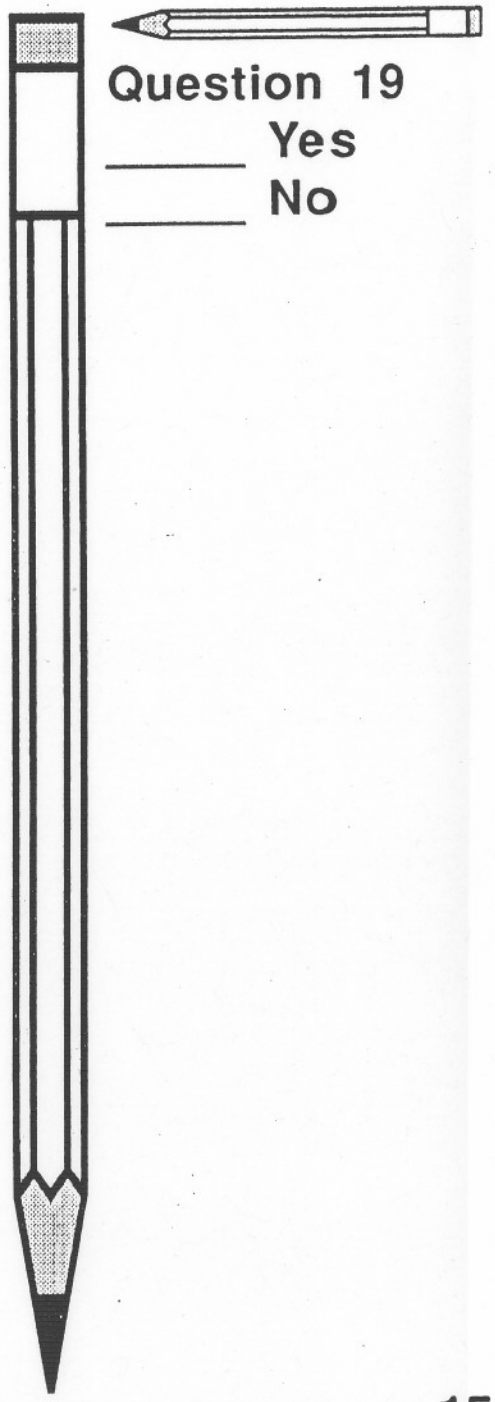
Yes _____

No _____

Does the rate structure provide for lower rates for low-income residential users?

Answer *Yes* to question 18 only if the utility meets all four conditions listed above.

Does the utility charge a minimum bill?



The minimum charge covers the cost of preparing, mailing, and collecting bills. A minimum charge that is set too high creates a non-proportional rate for the users.

What is the minimum bill?

$_____

What is the average annual wastewater service charge for a residential customer?

$_____

What is the basis of the user charge?

User charges are generally based on:

___ water meter readings,

___ equivalent dwelling units, or

___ other (specify)_____.

Wastewater user charges are normally based on the customer's water meter reading. Water meter readings may be adjusted to account for water not discharged to the sanitary sewer system. The municipality should have a written policy on how it handles adjustments.

If meters aren't available and the volume and strength of all users' discharges are about equal, user charges may be based on equivalent dwelling units. Flow from small commercial and industrial users can be based on number of employees, fixture units, or some other factor that equates flow and strength of waste from non-residential users to that of residential users. This method is recommended only where no water meters exist, and it's only appropriate for small non-residential users that produce domestic wastewater.

How does the utility handle high-strength discharges?

Residential users usually contribute what's classified as "normal-strength" wastewater to the sewer system. If this utility has commercial or industrial users who contribute "high-strength" or toxic wastes into the sewer system, then several items must be examined.

Identify high-strength waste dischargers. Are they billed a surcharge? A surcharge is normally applied to dischargers whose waste exceeds the strength of normal domestic sanitary sewage. It costs more (in terms of energy requirements, chemicals, and manpower) to treat high-strength waste, and a surcharge is a method to recover those "extra" expenses. Surcharge rates apply to wastewater parameters such as biochemical oxygen demand (BOD), total suspended solids (TSS), oil and grease (O&G), metals, and so forth.

Question 20

Yes _____

No _____

Does the wastewater system have high-strength dischargers?

List them:	List basis for surcharge: (BOD, TSS, metals, etc.)
_____	_____
_____	_____
_____	_____
_____	_____

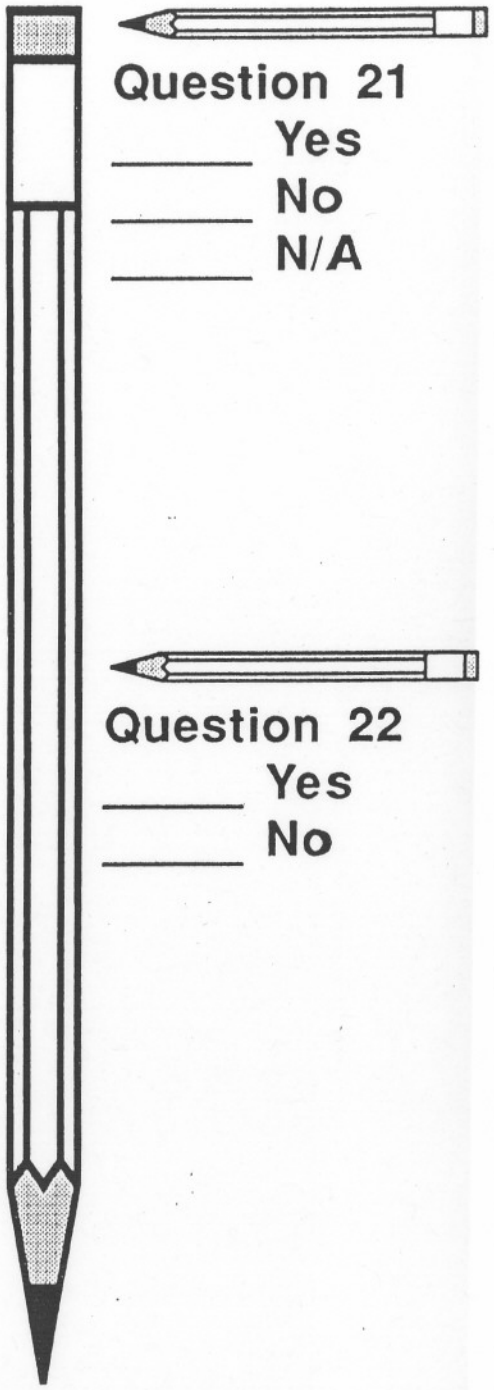
Is an equitable surcharge assessed each high-strength discharger?

Notes:

Is the user charge system proportional?

The answers to questions 16, 17, 19, and 21 must be either *Yes* or *N/A* before you can answer *Yes* to question 22. The answers for questions 18 and 20 may be either *Yes* or *No*.

Reference - CFR 40 § 35.2140 (a) and (i) and *Managing Your Utility's Money*, EPA publication 430/09-91-014.



DO OTHER REQUIREMENTS APPLY?

Yes! Several miscellaneous requirements apply to grantee user charge systems.

At least once a year, users must be notified of the wastewater rates and how they are applied to wastewater treatment services. Notices are usually sent out with bills. The municipalities may also publish the information in local newspapers. For systems based on ad valorem taxes, the amount of the money paid for wastewater services is stated in the property owner's tax bill.

Question 23
Yes _____
No _____

Are users notified annually of the rates and how revenues are applied to wastewater treatment services?

How? _____ (sent with bills, special mailing, etc.)

Reference - 40 CFR § 35.2140(c).

Every other year, grantees must review the wastewater contribution of users, total OM&R costs, and the adequacy of user charges. Ask:

___ Are costs shared proportionally?

___ Are sufficient revenues generated to cover costs of operation?

___ Are any excess revenues applied back to the user class from whom they were collected?

Question 24
Yes _____
No _____

Are biennial reviews conducted of operation, maintenance, and equipment replacement (OM&R) charges?

Reference - 40 CFR § 35.929-2(b)

Does the wastewater system have infiltration/inflow (I/I)?

Acceptable ways to handle treatment costs for these flows are:

1. distribute costs associated with I/I the same way other OM&R costs are distributed to users; or

2. distribute costs via one or a combination of:
   - flow volume of the users,
   - land area of the users,
   - number of hookups or discharges of the user, or
   - property valuation (*only* if the user charge system is based on ad valorem taxes).

Are OM&R costs for extraneous flows distributed fairly?

Reference - 40 CFR § 35.2140(e) and § 35.929-2(d).

Revenue may be generated by the sale of treatment byproducts, lease of the land, or sale of crops grown on the land. If the operation generates revenue, it must be used to reduce all users' charges proportionally by offsetting OM&R costs.

Does the wastewater operation generate revenues?

Question 25

_____ Yes

_____ No

Question 26

_____ Yes

_____ No

_____ N/A

Question 27

_____ Yes

_____ No

Question 28

Yes _____

No _____

N/A _____

Are operational revenues used to reduce user charges proportionally?

Reference - 40 CFR § 35.2140(f).

The municipality must enact a user charge system before the treatment works goes into operation and implement it for the useful life of the treatment works.

Question 29

Yes _____

No _____

Has the user charge system been legally adopted by the municipality's governing body?

Reference - 40 CFR § 35.2208.

All municipalities contributing wastes to the treatment works must legally adopt and implement user charge systems that comply with the regulations. Each user class pays its proportionate share of OM&R costs. These costs are based on the user's proportion of the total wastewater.

Question 30

Yes _____

No _____

Are any users located outside the utility's political boundary (for instance, other municipalities or utility districts)?

Do all municipalities contributing wastewater to the treatment works comply with the requirements of proportionality, legislative enactments, and good financial management?

Reference - 40 CFR § 35.2140(g) and § 35-929-2(e).

Question 31

_____ Yes
_____ No
_____ N/A

The requirements outlined in this guide and specified in the CFR references take precedence over any state or municipal user charge agreements or requirements.

Is the utility's user charge system consistent with CFR requirements and does it override any inconsistent agreements or contracts?

Reference - 40 CFR § 35.2140(h) , § 35.2208, 35.929-2(g).

Question 32

_____ Yes
_____ No

The first year's operation costs are usually estimated from past operations of an existing treatment works.

If this is the first year of operation, were operation and maintenance charges determined properly?

Reference - 40 CFR § 35.929-2(a).

Question 33

_____ Yes
_____ No
_____ N/A

Question 34
Yes _____
No _____

Does the user charge system comply with miscellaneous requirements?

You must answer either *Yes* or *N/A* to questions 23, 24, 26, 28, 29, 31, 32, and 33 before you can answer *Yes* to question 34. Questions 25, 27, and 30 may be answered either *Yes* or *No*.

ARE THERE SPECIAL REQUIREMENTS FOR INDUSTRIAL USERS?

Yes. The CFR imposes some special requirements on industrial users. Industrial users are users that:

1. discharge a volume exceeding 25,000 gallons per day or BOD or TSS equal to or greater than that found in 25,000 gallons per day of sanitary waste; or
2. discharge toxic pollutants that contaminate the sludge, interfere with the treatment process, create a hazard or nuisance, or adversely affect receiving waters.

Question 35
Yes _____
No _____

Does the utility have industrial users?

Each industrial user discharging high-strength BOD or TSS waste must pay a surcharge fee for treatment of these wastes. Each user that discharges toxic pollutants that increase the cost of managing effluent or sludge must pay for such increased cost. (Refer to questions 20 and 21.)

Does each industrial user pay its fair share of OM&R costs based upon actual use of the wastewater facility?

A "significant industrial user" is a user that contributes more than 10 percent of the flow *or* pollutants for which the treatment plant is designed to handle.

Does the utility have any significant industrial users?

The CFR requires significant industrial users to pay that portion of the grant amount associated with the treatment of its wastes. This addresses capital project (not OM&R) costs.

Did significant industrial users pay their fair share of capital costs for the project?

Is the utility required to have a pretreatment program?

Question 36

_____ Yes
_____ No
_____ N/A

Question 37

_____ Yes
_____ No

Question 38

_____ Yes
_____ No
_____ N/A

Question 39

_____ Yes
_____ No

Question 40

Yes _____

No _____

N/A _____

Question 41

Yes _____

No _____

Are the OM&R costs of the pretreatment program paid proportionally by the pretreatment customers?

Reference - 40 CFR § 35.925-11 and § 35.929-1(b).

Does the grantee's user charge system comply with industrial user requirements?

Answer *Yes* to question 41 only if you answered *Yes* or *N/A* to questions 36, 38, and 40. The answers to questions 35, 37, and 39 may be either *Yes* or *No*.

WHAT'S THE CONCLUSION?

You may have noticed some of the previous questions were in larger type and all capital letters. You evaluated those six major requirements for wastewater user charge systems:

1. Do You Need to Follow This Guide?
2. What's a User Charge System, Anyway?
3. Why are Financial and Operational Management Important?
   Do Revenues Cover Expenses?
   Is Operational Management Adequate?
4. Why Are Proportional Charges Important?
5. Do Other Requirements Apply?
6. Are There Special Requirements for Industrial Users?

This user charge system is in compliance with CFR only if you are able to answer *Yes* to questions 1, 3, 15, 22, 34, and 41.

SUMMARY CHECKLIST

		Acceptable Answers		
		Yes	No	N/A
1.	Do you need to follow this guide?	—		
2.	Is the utility's user charge system based on either actual use or ad valorem taxes?	—		
3.	Do revenues cover expenses of operation?	—		
4.	Does the utility prepare an annual budget of wastewater revenues and expenses?	—	—	
5.	Does the utility prepare actual vs. budgeted comparisons for revenues and expenses?	—	—	
6.	Does the wastewater budget show revenues and expenses by line item?	—	—	
7.	Does the utility maintain adequate operating and coverage ratios?	—	—	
8.	Does the utility receive monthly accounting reports for revenues and expenses?	—	—	
9.	Does the utility maintain all records for at least four years?	—	—	
10.	Does the utility have written operating policies and procedures?	—	—	
11.	Does the organizational structure of the utility operate efficiently?	—	—	
12.	Is the staff highly motivated and well trained?	—	—	
13.	Does the wastewater treatment facility appear to be well operated?	—	—	
14.	Is the utility in compliance with its discharge permit?	—	—	
15.	Is operational management adequate?	—		
16.	Does each user receive a bill for services?	—		

Acceptable Answers			
Yes	No	N/A	
___			17. Does the rate structure identify user classes?
___	___		18. Does the rate structure offer lower rates for low-income residential users?
___			19. Does the utility charge a minimum bill?
___	___		20. Does the utility have high-strength discharges into the sewer system?
___		___	21. Is an equitable surcharge assessed each high-strength discharger?
___			22. Is the user charge system proportional?
___			23. Are users notified annually of the rates and how revenues are applied to wastewater treatment services?
___			24. Are biennial reviews of operation and maintenance (O&M) charges conducted?
___	___		25. Does the wastewater system have infiltration/inflow (I/I)?
___		___	26. Are OM&R costs for extraneous flows distributed fairly?
___	___		27. Does the wastewater operation generate revenues?
___		___	28. Are operational revenues used to reduce user charges proportionally?
___			29. Has the user charge system been legally adopted by the municipality's governing body?
___	___		30. Are any users located outside the utility's political boundary?
___		___	31. Do all municipalities contributing wastewater to the treatment system comply with requirements of proportionality, legislative enactments, and good financial management?

		Acceptable Answers		
		Yes	No	N/A
32.	Is the utility's user charge system consistent with CFR requirements and does it override any inconsistent agreements or contracts?	___		
33.	If this is the first year of operation, were operation and maintenance charges determined properly?	___		___
34.	Does the utility's user charge system comply with miscellaneous requirements?	___		
35.	Does the utility have industrial users?	___	___	
36.	Does each industrial user pay its fair share of OM&R costs based on actual use of the wastewater system?	___		___
37.	Does the utility have any significant industrial users?	___	___	
38.	Did significant industrial users pay their fair share of capital costs for the project?	___		___
39.	Is the utility required to have a pretreatment program?	___	___	
40.	Are the costs of implementing the pretreatment program paid proportionally by the pretreatment customers?	___		___
41.	Does the grantee's user charge system comply with industrial user requirements?	___		

Model User Charge Systems

40 CFR § 35, Subpart E, Appendix B, *Federal Guidelines - User Charges for Operation and Maintenance of Publicly Owned Treatment Works* contains model user charge systems.

APPENDIX A

Code of Federal Regulations

§35.925-11 User charges and industrial cost recovery.

That, in the case of grant assistance for a project involving step 2 or step 3, the grantee has complied or will comply with the requirements for user charge and industrial cost recovery systems. (See §§ 35.928 et seq., 35.929 et seq., 35.935-13, and 35.935-15.)

(a) *Grants awarded before July 1, 1979.* Grantees must submit a schedule of implementation to show that their user charge and industrial cost recovery systems will be approved in accordance with the requirements of §§35.935-13 and 35.935-15.

(b) *Grants awarded after June 30, 1979.* The grantee's user charge and industrial cost recovery systems must be approved before the award of step 3 grant assistance.

(c) *Letters of intent.* In the case of any grant assistance for a project involving step 2 or step 3, the applicant must have received signed letters of intent from each significant industrial user stating that it will pay that portion of the grant amount allocable to the treatment of its wastes. Each such letter shall also include a statement of the industrial user's intended period of use of the treatment works. A significant industrial user is one that will contribute greater than 10 percent of the design flow or design pollutant loading of the treatment works. In addition, the applicant must agree to require all industrial users to pay that portion of the grant amount allocable to the treatment of wastes from such users.

§ 35.929 Requirements for user charge system.

The Regional Administrator shall approve the grantee's user charge system and the grantee shall implement and maintain it in accordance with § 35.935-13 and the requirements in §§ 35.929-1 through 35.929-3. The grantee shall be subject to the noncompliance provisions of § 35.965 for failure to comply.

§ 35.929-1 Approval of the user charge system.

The Regional Administrator may approve a user charge system based on either actual use under paragraph (a) of this section or ad valorem taxes under paragraph (b) of this section. The general requirements in §§ 35.929-2 and 35.929-3 must also be satisfied.

(a) *User charge system based on actual use.* A grantee's user charge system based on actual use (or estimated use) of waste water treatment services may be approved if each user (or user class) pays its proportionate share of operation and maintenance (including replacement) costs of treatment works within the grantee's service area, based on the user's proportionate contribution to the total waste water loading from all users (or user classes). To insure a proportional distribution of operation and maintenance costs to each user (or user class), the user's contribution shall be based on factors such as strength, volume, and delivery flow rate characteristics.

(b) *User charges based on ad valorem taxes.* A grantee's user charge system (or the user charge system of a subscriber, i.e., a constituent community receiving waste treatment services from the grantee) which is based on ad valorem taxes may be approved if it meets the requirements of

paragraphs (b)(1) through (b)(7) of this section. If the Regional Administrator determines that the grantee did not have a dedicated ad valorem tax system on December 27, 1977, meeting the requirements of paragraphs (b)(1) through (b)(3) of this section, the grantee shall develop a user charge system based on actual use under § 35.929-1(a).

(1) The grantee (or subscriber) had in existence on December 27, 1977, a system of ad valorem taxes which collected revenues to pay the cost of operation and maintenance of waste water treatment works within the grantee's service area and has continued to use that system.

(2) The grantee (or subscriber) has not previously obtained approval of a user charge system on actual use.

(3) The system of ad valorem taxes in existence on December 27, 1977, was dedicated ad valorem tax system.

(i) A grantee's system will be considered to be dedicated if the Regional Administrator determines that the system meets all of the following criteria:

(A) The ad valorem tax system provided for a separate tax rate or for the allocation of a portion of the taxes collected for payment of the grantee's costs of waste water treatment services;

(B) The grantee's budgeting and accounting procedures assured that a specified portion of the tax funds would be used for the payment of the costs of operation and maintenance;

(C) The ad valorem tax system collected tax funds for the costs of waste water treatment services which could not be or historically were not used for other purposes; and

(D) The authority responsible for the operation and maintenance of the treatment works established the budget for the costs of operation and maintenance and used those specified amounts solely to pay the costs of operation and maintenance.

(ii) A subscriber's system based on ad valorem taxes will be considered to be dedicated if a contractual agreement or a charter established under State law existed on December 27, 1977, which required the subscriber to pay its share of the cost of waste water treatment services.

(4) A user charge system funded by dedicated ad valorem taxes shall establish, as a minimum, the classes of users listed below:

(i) Residential users, including single-family and multi-family dwellings, and small nonresidential users, including nonresidential commercial and industrial users which introduce no more than the equivalent of 25,000 gallons per day of domestic sanitary wastes to the treatment works:

(ii) Industrial and commercial users;

(A) Any nongovernmental user of publicly owned treatment works which discharges more than 25,000 gallons per day (gpd) of sanitary waste; or a volume of process waste, or combined process and sanitary waste, equivalent to 25,000 gpd of sanitary waste. The grantee, with the Regional Administrator's approval, shall define the strength of the residential discharges in terms of parameters including, as a minimum, biochemical oxygen demand (BOD) and suspended solids (SS) per volume of flow. Dischargers with a volume exceeding 25,000 gpd or the weight of BOD or SS equivalent to that weight found in 25,000 gpd of sanitary waste are considered industrial users.

(B) Any nongovernmental user of a publicly owned treatment works which discharges waste water to the treatment works which contains toxic pollutants or poisonous solids, liquids, or gases in sufficient quantity either singly or by interaction with other wastes, to contaminate the sludge of any municipal systems, or to injure or to interfere with any sewage treatment process, or which constitutes a hazard to humans or animals, creates a public nuisance, or creates any hazard in or has an adverse effect on the waters receiving any discharge from the treatment works.

(iii) Users which pay no ad valorem taxes or receive substantial credits in paying such taxes, such as tax exempt

institutions or governmental users, but excluding publicly owned facilities performing local governmental functions (e.g., city office building, police station, school) which discharge solely domestic wastes.

(5) The grantee must be prepared to demonstrate for the Regional Administrator's approval that its system of evaluating the volume, strength, and characteristics of the discharges from users or categories of users classified within the subclass of small nonresidential users is sufficient to assure that such users or the average users in such categories do not discharge either toxic pollutants or more than the equivalent of 25,000 gallons per day of domestic wastewater.

(6) The ad valorem user charge system shall distribute the operation and maintenance costs for all treatment works in the grantee's jurisdiction to the residential and small nonresidential user class, in proportion to the use of the treatment works by this class. The proportional allocation of costs for this user class shall take into account the total waste water loading of the treatment works, the constituent elements of the wastes from this user class and other appropriate factors. The grantee may assess one ad valorem tax rate to this entire class of users or, if permitted under State law, the grantee may assess different ad valorem tax rates for the subclass of residential users and the subclass of small nonresidential users provided the operation and maintenance costs are distributed proportionately between these subclasses.

(7) Each member of the industrial and commercial user class described under paragraph (b)(4)(ii) of this section and of the user class which pays no ad valorem taxes or receives substantial credits in paying such taxes described under paragraph (b)(4)(iii) of this section shall pay its share of the costs of operation and maintenance of the treatment works based upon charges for actual use (in accordance with § 35.929-1(a). The grantee may use its ad valorem tax system to collect, in whole or in part, those charges from members of the industrial and large commercial class where the following conditions are met:

(i) A portion or all of the ad valorem tax rate assessed to members of this class has been specifically designated to pay the costs of operation and maintenance of the treatment works, and that designated rate is uniformly applied to all members of this class:

(ii) A system of surcharges and rebates is employed to adjust the revenues from the ad valorem taxes collected from each user of this class in accordance with the rate designated under paragraph (b)(7)(i) of this section, such that each member of the class pays a total charge for its share of the costs of operation and maintenance based upon actual use.

§ 35.929-2 General requirements for all user charge systems.

User charge systems based on actual use under § 35.929-1(a) or ad valorem taxes under § 35.929-1(b) shall also meet the following requirements:

(a) *Initial basis for operation and maintenance charges.* For the first year of operation, operation and maintenance charges shall be based upon past experience for existing treatment works or some other method that can be demonstrated to be appropriate to the level and type of services provided.

(b) *Biennial review of operation and maintenance charges.* The grantee shall review not less often than every 2 years the waste water contribution of users and user classes, the total costs of operation and maintenance of the treatment works, and its approved user charge system. The grantee shall revise the charges for users or user classes to accomplish the following:

(1) Maintain the proportionate distribution of operation and maintenance costs among users and user classes as required herein;

(2) Generate sufficient revenue to pay the total operation and maintenance costs necessary to the proper operation and maintenance (including replacement) of the treatment works; and

(3) Apply excess revenues collected from a class of users to the costs of operation and maintenance attributable to that class for the next year and adjust the rate accordingly.

(c) *Toxic pollutants.* The user charge system shall provide that each user which discharges any toxic pollutants which cause an increase in the cost of managing the effluent or the sludge of the grantee's treatment works shall pay for such increased costs.

(d) *Charges for operation and maintenance for extraneous flows.* The user charge system shall provide that the costs of operation and maintenance for all flow not directly attributable to users (i.e., infiltration/inflow) be distributed among all users of the grantee's treatment works system based upon either of the following:

(1) In the same manner that it distributes the costs of operation and maintenance among users (or user classes) for their actual use, or

(2) Under a system which uses one of any combination of the following factors on a reasonable basis:

(i) Flow volume of the users;

(ii) Land area of the users;

(iii) Number of hookups or discharges to the users;

(iv) Property valuation of the users, if the grantee has a user charge system based on ad valorem taxes approved under § 35.929-1(b).

(e) *Adoption of system.* One or more municipal legislative enactments or other appropriate authority must incorporate the user charge system. If the project is a regional treatment system accepting wastewaters from other municipalities, the subscribers receiving waste treatment services from the grantee shall adopt user charge systems in accordance with section 204(b)(1)(A) of the Act and §§ 35.929 through 35.929-3. These user charge systems shall also be incorporated in appropriate municipal legislative enactments or other appropriate authority of all municipalities contributing wastes to the treatment works. The public shall be informed of the financial impact of the user charge system on them and shall be consulted prior to adoption of the system, in accordance with 40 CFR part 25.

(f) *Notification.* Each user charge system must provide that each user be notified, at least annually, in conjunction with a regular bill, of the rate and that portion of the user charges or ad valorem taxes which are attributable to waste water treatment services.

(g) *Inconsistent agreements.* The grantee may have preexisting agreements which address: (1) The reservation of capacity in the grantee's treatment works, or (2) the charges to be collected by the grantee in providing wastewater treatment services or reserving capacity. The user charge system shall take precedence over any terms or conditions of agreements or contracts between the grantee and users (including industrial users, special districts, other municipalities, or Federal agencies or installations) which are inconsistent with the requirements of section 204(b)(1)(A) of the Act and these regulations.

(h) *Costs of pretreatment program.* A user charge system submitted by a municipality with an approved pretreatment program shall provide that the costs necessary to carry out the program and to comply with any applicable requirements of section 405 of the Act and related regulations are included within the costs of operation and maintenance of the system and paid through user charges, or are paid in whole or in part by other identified sources of funds.

[43 FR 44049, Sept. 27, 1978, as amended at 44 FR 10304, Feb. 16, 1979]

§ 35.929-3 Implementation of the user charge system.

(a) When a grantee's user charge system is approved, implementation of the approved system shall become a condition of the grant.

(b) The grantee shall maintain such records as are necessary to document compliance with these regulations.

(c) Appendix B to this subpart contains guidelines with illustrative examples of acceptable user charge systems.

(d) The Regional Administrator may review, no more often than annually, a grantee's user charge system to assure that it continues to meet the requirements of §§ 35.929-1 through 35.929-3.

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§ 35.935-13 Submission and approval of user charge systems.

The grantee shall obtain the approval of the Regional Administrator of its system of user charges. (See also § 35.929 et seq.)

(a) *Step 3 grant assistance awarded under regulations promulgated on February 11, 1974,* (1) Except as paragraph (a)(2) of this section provides, the grantee must obtain the Regional Administrator's approval of its system of user charges based on actual use which complies with § 35.929-1(a). The Regional Administrator shall not pay more than 50 percent of the Federal share of any step 3 project unless the grantee has submitted adequate evidence of timely development of its system of user charges nor shall the Regional Administrator pay more than 80 percent of the Federal share unless he has approved the system.

(2) A grantee which desires approval of a user charge system based on ad valorem taxes in accordance with § 35.929-1(b) shall submit to the Regional Administrator by July 24, 1978, evidence of compliance of its system with the criteria in § 35.929-1 (b)(1) through (b)(3). As soon as possible, the Regional Administrator shall advise the grantee if the system complies with § 35.929-1 (b)(1). The Regional Administrator's determination may be appealed in accordance with subpart J, "Disputes," of part 30 of this subchapter.

(i) *Grantees whose ad valorem tax systems meet the criteria of § 35.929-1 (b)(1) through (b)(3).* Any step 3 payments held by the Regional Administrator at 50 percent or 80 percent for failure to comply with the requirement for development of a user charge system shall be released. However, the grantee shall obtain approval of its user charge system by June 30, 1979 or no further payments will be made until the sytem is approved and the grants may be terminated or annulled.

(ii) *Grantees whose ad valorem tax systems do not meet the criteria of § 35.929-1 (b)(1) through (b)(3).* Step 3 grants will continue to be administered in accordance with paragraph (a)(1) of this section.

(b) *Step 3 grant assistance awarded after April 24, 1978, but before July 1, 1979.* The grantee must obtain approval of its user charge system based on actual use or ad valorem taxes before July 1, 1979. The Regional Administrator may not make any payments on these grants, may terminate or annul these grants, and may not award any new step 3 grants to the same grantee after June 30, 1979, if the user charge system has not been approved. The Regional Administrator shall approve the grantee's user charge or ad valorem tax rates and the ordinance required under § 35.929-2(e) and the grantee shall enact them before the treatment works constructed with the grant are placed in operation.

(c) *Step 3 grant assistance awarded after June 30, 1979.* The Regional Administrator may not award step 3 grant assistance unless he has approved the user charge system based on actual use or ad valorem taxes. The Regional Administrator shall approve the grantee's user charge or ad valorem tax rates and the ordinance required under § 35.929-2(e) and the grantee shall enact them before the treatment works constructed with the grant are placed in operation.

§35.2122 Approval of user charge system and proposed sewer use ordinance.

If the project is for Step 3 grant assistance, unless it is solely for acquisition of eligible land, the applicant must obtain the Regional Administrator's approval of its user charge system (§35.2140) and proposed (or existing) sewer use ordinance §35.2130). If the applicant has a sewer use ordinance or user charge system in effect, the applicant shall demonstrate to the Regional Administrator's satisfaction that they meet the requirements of this part and are being enforced.

(Approved by the Office of Management and Budget under control number 2040-0027)

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§35.2140 User charge system.

The user charge system (see §§35.2122 and 35.2208) must be designed to produce adequate revenues required for operation and maintenance (including replacement). It shall provide that each user which discharges pollutants that cause an increase in the cost of managing the effluent or sludge from the treatment works shall pay for such increased cost. The user charge system shall be based on either actual use under paragraph (a) of this section, ad valorem taxes under paragraph (b) of this section, or a combination of the two.

(a) *User charge system based on actual use.* A grantee's user charge system based on actual use (or estimated use) of wastewater treatment services shall provide that each user (or user class) pays its proportionate share of operation and maintenance (including replacement) costs of treatment works within the grantee's service area, based on the user's proportionate contribution to the total wastewater loading from all users (or user classes).

(b) *User charge system based on ad valorem taxes.* A grantee's user charge system which is based on ad valorem taxes may be approved if:

(1) On December 27, 1977, the grantee had in existence a system of dedicated ad valorem taxes which collected revenues to pay the cost of operation and maintenance of wastewater treatment works within the grantee's service area and the grantee has continued to use that system;

(2) The ad valorem user charge system distributes the operation and maintenance (including replacement) costs for all treatment works in the grantee's jurisdiction to the residential and small non-residential user class (including at the grantee's option nonresidential, commercial and industrial users that introduce no more than the equivalent of 25,000 gallons per day of domestic sanitary wastes to the treatment works), in proportion to the use of the treatment works by this class; and

(3) Each member of the industrial user and commercial user class which discharges more than 25,000 gallons per day of sanitary waste pays its share of the costs of operation and maintenance (including replacement) of the treatment works based upon charges for actual use.

(c) *Notification.* Each user charge system must provide that each user be notified, at least annually, in conjunction with a regular bill (or other means acceptable to the Regional Administrator), of the rate and that portion of the user charges or ad valorem taxes which are attributable to wastewater treatment services.

(d) *Financial management system.* Each user charge system must include an adequate financial management system that will accurately account for revenues generated by the system and expenditures for operation and maintenance (including replacement) of the treatment system, based on an adequate budget identifying the basis for determining the annual operation and maintenance costs and the costs of personnel, material, energy and administration.

(e) *Charges for operation and maintenance for extraneous flows.* The user charge system shall provide that the costs of operation and maintenance for all flow not directly attributable to users (i.e., infiltration/inflow) be distributed among all users based upon either of the following:

(1) In the same manner that it distributes the costs for their actual use, or

(2) Under a system which uses one or any combination of the following factors on a reasonable basis:

(i) Flow volume of the users;

(ii) Land area of the users;

(iii) Number of hookups or discharges of the users;

(iv) Property valuation of the users, if the grantee has an approved user charge system based on ad valorem taxes.

(f) After completion of building a project, revenue from the project (e.g., sale of a treatment-related by-product; lease of the land; or sale of crops grown on the land purchased under the grant agreement) shall be used to offset the costs of operation and maintenance. The grantee shall proportionately reduce all user charges.

(g) *Adoption of system.* One or more municipal legislative enactments or other appropriate authority must incorporate the user charge system. If the project accepts wastewater from other municipalities, the subscribers receiving waste treatment services from the grantee shall adopt user charge systems in accordance with this section. These user charge systems shall also be incorporated in appropriate municipal legislative enactments or other appropriate authority of all municipalities contributing wastes to the treatment works.

(h) *Inconsistent agreements.* The user charge system shall take precedence over any terms or conditions of agreements or contracts which are inconsistent with the requirements of section 204(b)(1)(A) of the Act and this section.

(i) *Low income residential user rates.* (1) Grantees may establish lower user charge rates for low income residential users after providing for public notice and hear[illegible] A low income residential user is any residence with a [illegible]sehold income below the Federal poverty level as defined in 45 CFR 1060.2 or any residence designated as low income under State law or regulation.

(2) Any lower user charge rate for low income residential users must be defined as a uniform percentage of the user charge rate charged other residential users.

(3) The costs of any user charge reductions afforded a low income residential class must be proportionately absorbed by all other user classes. The total revenue for operation and maintenance (including equipment replacement) of the facilities must not be reduced as a result of establishing a low income residential user class.

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[49 FR 6234, Feb. 17, 1984, as amended at 55 FR 27097, June 29, 1990]

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§ 35.2208 Adoption of sewer use ordinance and user charge system.

The grantee shall adopt its sewer use ordinance and implement its user charge system developed under §§ 35.2130 and 35.2140 before the treatment works is placed in operation. Further, the grantee shall implement the user charge system and sewer use ordinance for the useful life of the treatment works.

APPENDIX B - FEDERAL GUIDELINES

User Charges for Operation and Maintenance of Publicly Owned Treatment Works

(a) *Purpose.* To set forth advisory information concerning user charges based on actual use pursuant to section 204 of the Clean Water Act, hereinafter referred to as the Act. Applicable requirements are set forth in subpart E (40 CFR part 35).

(b) *Authority.* The authority for establishment of the user charge guidelines is contained in section 204(b)(2) of the Act.

(c) *Background.* Section 204(b)(1) of the Act provides that after March 1, 1973, Federal grant applicants shall be awarded grants only after the Regional Administrator has determined that the applicant has adopted or will adopt a system of charges to assure that each recipient of waste treatment services will pay its proportionate share of the costs of operation and maintenance, including replacement. The intent of the Act with respect to user charges is to distribute the cost of operation and maintenance of publicly owned treatment works to the pollutant source and to promote self sufficiency of treatment works with respect to operation and maintenance costs. The 1977 Amendments amended section 204(b) to allow grantees to establish user charge systems based on ad valorem taxes. This appendix does not apply to ad valorem user charge systems.

(d) *Definitions* - (1) *Replacement.* Expenditures for obtaining and installing equipment, accessories, or appurtenances which are necessary to maintain the capacity and performance during the service life of the treatment works for which such works were designed and constructed. The term "operation and maintenance" includes replacement.

(2) *User charge.* A charge levied on users of treatment works for the cost of operation and maintenance of such works.

(e) *Classes of users.* At least two basic types of user charge systems are common. The first is to charge each user a share of the treatment works operation and maintenance costs based on his estimate of measured proportional contribution to the total treatment works loading. The second system establishes classes for users having similar flows and waste water characteristics; i.e. levels of biochemical oxygen demand, suspended solids, etc. Each class is then assigned its share of the waste treatment works operation and maintenance costs based on the proportional contribution of the class to the total treatment works loading. Either system is in compliance with these guidelines.

(f) *Criteria against which to determine the adequacy of user charges.* The user charge system shall be approved by the Regional Administrator and shall be maintained by the grantee in accordance with the following requirements:

(1) The user charge system must result in the distribution of the cost of operation and maintenance of treatment works within the grantee's jurisdiction to each user (or user class) in proportion to such user's contribution to the total wastewater loading of the treatment works. Factors such as strength, volume, and delivery flow rate characteristics shall be considered and included as the basis for the user's contribution to ensure a proportional distribution of operation and maintenance costs to each user (or user class).

(2) For the first year of operation, operation and maintenance costs shall be based upon past experience for existing treatment works or some other rational method that can be demonstrated to be applicable.

(3) The grantee shall review user charges annually and revise them periodically to reflect actual treatment works operation and maintenance costs.

(4) The user charge system must generate sufficient revenue to offset the cost of all treatment works operation and maintenance provided by the grantee.

(5) The user charge system charge must be incorporated in one or more municipal legislative enactments or other appropriate authority. If the project is a regional treatment works accepting wastewaters from treatment works owned by others, then the subscribers receiving waste treatment services from the grantee shall have adopted user charge systems in accordance with these guidelines. Such user charge systems shall be incorporated in the appropriate municipal legislative enactments or other appropriate authority.

(g) *Model user charge systems.* The user charge system adopted by the applicant must result in the distribution of treatment works operation and maintenance costs to each user (or user class) in approximate proportion to his contribution to the total wastewater loading of the treatment works. The following user charge models can be used for this purpose; however, the applicant is not limited to their use. The symbols used in the models are as defined below:

C_T= Total operation and maintenance (O&M) costs per unit of time.
C_u= A user's charge for O&M per unit of time.
C_s= A surcharge for wastewaters of excessive strength.
V_c= O&M cost for transportation and treatment of a unit of wastewater volume.
V_u= Volume contribution from a user per unit of time.
V_T= Total volume contribution from all users per unit of time.
B_c= O&M cost for treatment of a unit of biochemical oxygen demand (BOD).
B_u= Total BOD contribution from a user per unit of time.
B_T= Total BOD contribution from all users per unit of time.
B= Concentration of BOD from a user above a base level.
S_c= O&M cost for treatment of a unit of suspended solids.
S_u= Total suspended solids contribution from a user per unit of time.
S= Concentration of SS from a user above a base level.
P_c= O&M cost for treatment of a unit of any pollutant.
P_u= Total contribution of any pollutant from a user per unit of time.
P_T= Total contribution of any pollutant from all users per unit of time.
P= Concentration of any pollutant from a user above a base level.

(1) *Model No. 1.* If the treatment works is primarily flow dependent or if the BOD, suspended solids, and other pollutant concentrations discharged by all users are approximately equal, then user charges can be developed on a volume basis in accordance with the model below:

$$C_u = C_T/V_T(V_u)$$

(2) *Model No. 2.* - When BOD, suspended solids, or other pollutant concentrations from a user exceed the range of concentration of these pollutants in normal domestic sewage, a surcharge added to a base charge, calculated by means of Model No. 1, can be levied. The surcharge can be computed by the model below:

$$C_s = [B_c(B) + S_c(S) + P_c(P)]\ V_u$$

(3) *Model No. 3.* - This model is commonly called the "quantity/quality formula":

$$C_u = V_cV_u + B_cB_u + S_cS_u + P_cP_u$$

(h) *Other considerations*. - (1) Quantity discounts to large volume users will not be acceptable. Savings resulting from economies of scale should be apportioned to all users or user classes.

(2) User charges may be established based on a percentage of the charge for water usage only in cases where the water charge is based on a constant cost per unit of consumption.

[39 FR 5270, Feb. 11, 1974]