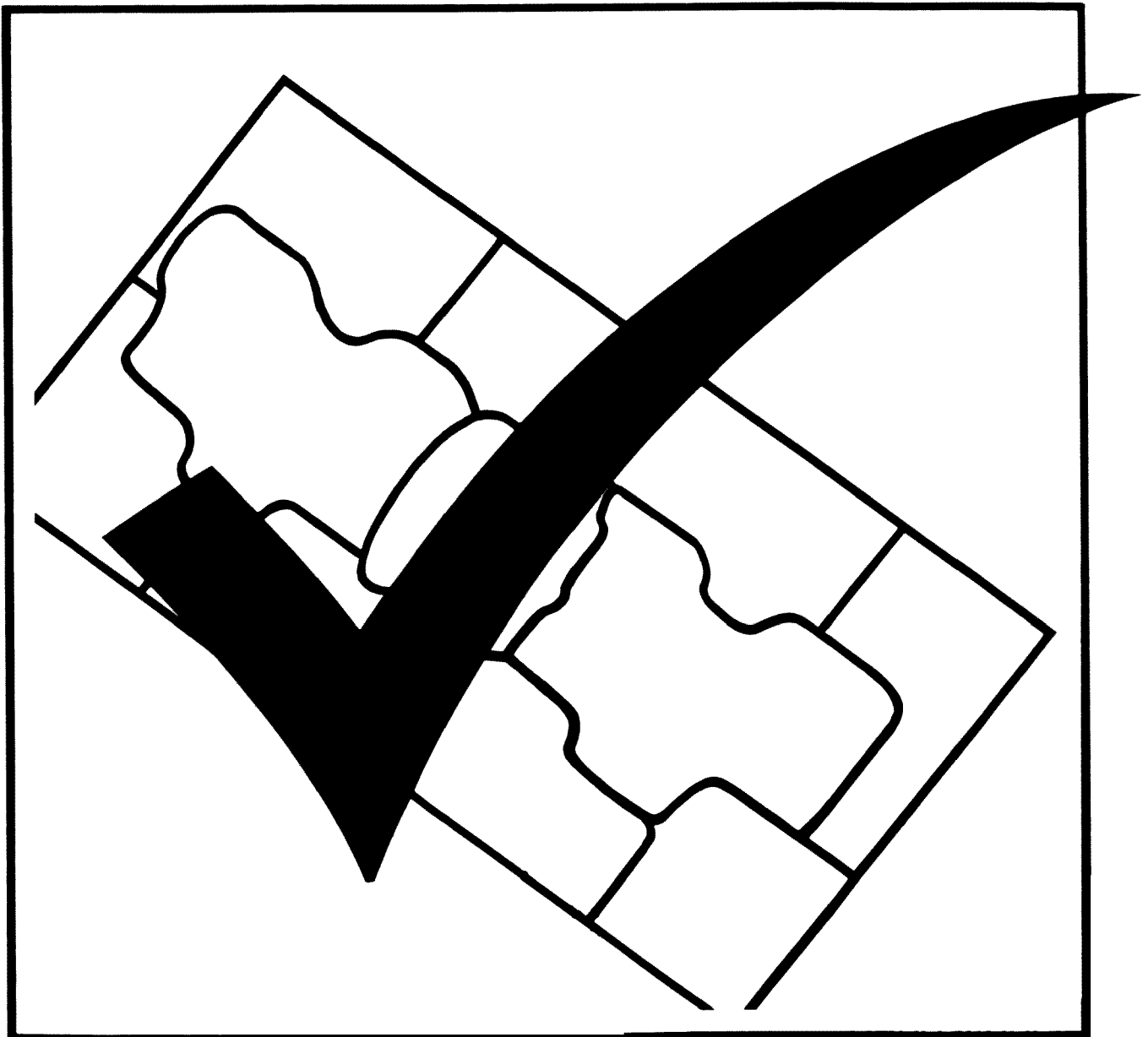




A Guide For Evaluating Wastewater User Service Charge Systems



Do This...

- ✓ **Read pages 1-7 to get the overall picture of what you will do.**
- ✓ **Look to pages 8-10 for the step-by-step process.**
- ✓ **Use the worksheets on pages 11-17 to evaluate a utility.**
- ✓ **Take the form letters on pages 18-22 and adapt them for your own use.**
- ✓ **Check the appendix on pages 23-24 for specific requirements.**

Getting Started

You're a federal or state official evaluating the financial soundness of a wastewater utility operation. Obviously, you need a general understanding of wastewater operations. But primarily, you need to know if the utility is generating enough revenue to properly operate and maintain itself.

Why?

Because how a wastewater utility handles revenues and expenses is crucial. Good financial management can prevent premature deterioration of facilities that ultimately leads to discharge permit violations.

This manual will help you evaluate whether a wastewater utility's user service charges are adequate to cover operations. It will tell you how to organize for a field visit, what homework to do, with whom to meet, what questions to ask, what records to review and how to analyze all the information you gather.

Your first evaluations will be time-consuming. However, with some experience, you'll learn exactly what documents to get and what questions to ask—and how to ask them! Eventually, you can evaluate a utility's financial operation in a few hours.

You don't need to be an accountant or have a background in utility finance. You can use this guide to effectively evaluate the system's financial health.

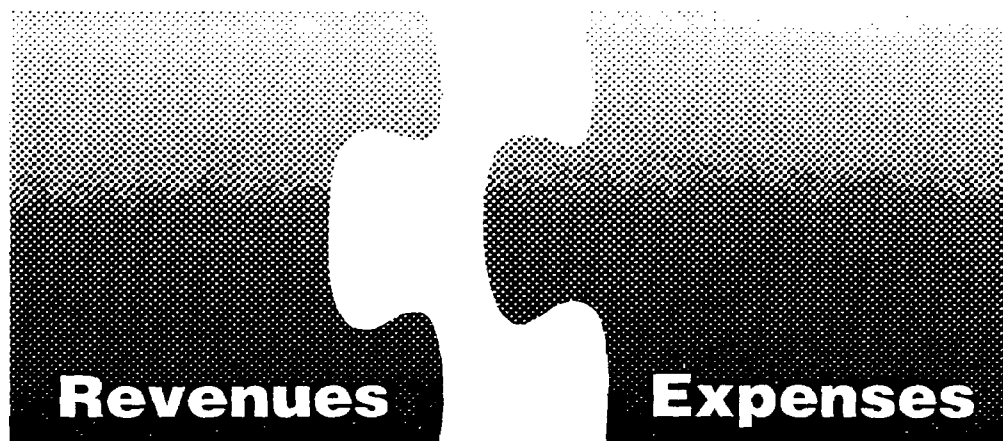
Wastewater user fees are NOT a mystery.

Once you understand all the pieces and fit them together, they'll create a clear picture of the overall financial operation.

The Big Picture

You will look at the wastewater treatment facility's financial management system and how it fits into the overall utility operation.

Two major components—revenues and expenses—make up the financial operation. And these two components have several pieces. We'll examine the relationship between these pieces closely.



Be aware that the financial operation doesn't stand alone. To properly evaluate a facility, consider other things that can impact the health of the system. For sound operation, a facility should have:

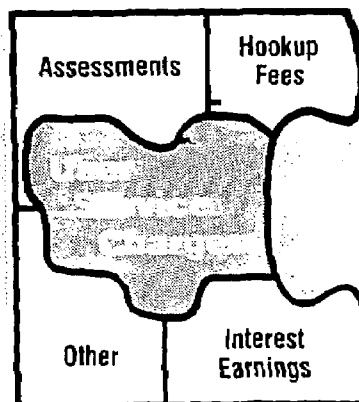
- an effective organizational structure,
- clear, written policies and procedures,
- trained, conscientious staff,
- efficient operation and maintenance practices,
- accurate budgets, audits and record-keeping,
- good customer relations.

Evaluating Revenues and Expenses

Two major components make up the financial picture of a wastewater utility operation—*revenues and expenses*.

Revenues...

...are all monies received for wastewater operations. Get these figures from management, budgets and financial statements.



A **user service charge** is the central and most important piece of a facility's financial puzzle. It's the fee charged users

Special User Charge Requirements

For EPA funded facilities, the utility must comply with its EPA approved user charge system to:

- **Charge each user (or user class) its proportionate share of the operation, maintenance and equipment replacement costs based on quantity and quality of discharged wastes.**
- **Notify users of rates annually.**
- **Distribute infiltration and inflow costs proportionally among all users.**
- **Impose surcharges for wastewater that requires additional treatment.**
- **Establish a financial management system to account for revenues and expenses.**
(For further EPA requirements, see page 23.)

State and local governments may:

- **Specify an acceptable accounting system—how a utility records, classifies and reports information on finances and operation of the system.**
- **Require certain reserve funds or coverage ratios on debt.**

for the collection and treatment of wastewater. It accounts for nearly all of a system's total revenue.

An effective rate structure will charge users their proportionate share of the operation, maintenance, equipment replacement and debt service costs. Usually, a local government implements its rate structure through an ordinance or resolution.

Keep these things in mind:

- The user service charge for wastewater collection and treatment should relate proportionally to the quantity and quality of wastewater produced by the user. If the discharge from all users is substantially equal—as expected from residential customers—then user fees would be based on the volume of wastewater. For commercial and industrial users who

discharge high strength wastes, a surcharge is added because it costs more to treat their wastes.

- Normally the user service charge is based on the customer's water meter reading. Frequently, meter readings are adjusted to account for water not discharged to the sanitary sewer system. If water meters do not exist, then the charge is based on equivalent dwelling units.

- How are the fees structured? Are the fees proportional to use? Volume discounts or premiums are not proportional. Is there a minimum bill? If so, is the minimum bill compatible with the concept of proportional user service charges? Does the utility bill monthly?

- The user service charge should include the costs of transporting and treating inflow/infiltration. When the I/I costs cannot be assigned to any particular user or user category, the costs are distributed proportionally among all users.

- Are the fees reviewed and adjusted annually?

- Is there provision for informing customers annually of the user fee schedule?

- Are customers outside the political boundary billed in proportion to their use?

There are other pieces to the revenue picture but they are very minor.

- Hookup/Impact fees...charges for new customers connecting to existing sewer lines.

- Taxes/Assessments...special front footage or other annual charges.

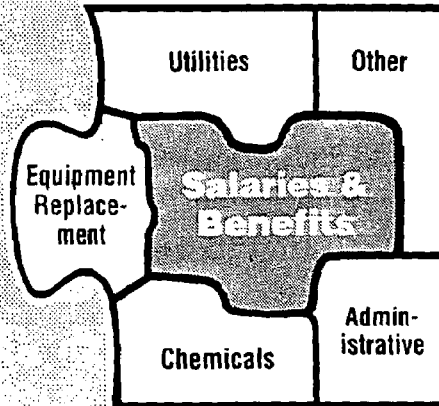
- Interest earnings...interest earned from investments like checking accounts, savings accounts and treasury bills.

- Other...may include sales of treatment byproducts such as composted sludge and the penalties charged for not paying the sewer bill on time. This penalty is often a percentage of the total bill.

Total wastewater treatment rate equals total costs for operation, maintenance, equipment replacement and debt service divided by total volume of treated wastewater.

Expenses...

...are the costs of operating, maintaining, replacing equipment and paying debt service for a wastewater system.



- Salaries and benefits...the largest expense of most wastewater operations.
- Utilities...the cost for electric, telephone, water and gas service.
- Equipment replacement...generally the cost of obtaining and installing equipment or accessories necessary to maintain the capacity and performance for which the treatment facility was designed and constructed. Annual contributions to a separate equipment replacement fund is an excellent financial management practice.

Other expense items include:

- Chemicals...for the treatment processes.
- Supplies and parts...lab supplies, gaskets, belts and lubricants.
- Contract services...for equipment service, plant operation or sewer line evaluation.
- Administrative...the cost of providing facilities for conducting business, liability insurance, postage, etc.
- Principal and interest...payments made to retire debt.

Operating expenses do not 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 period.

The Pieces...

What Do They Mean?

So far, we examined the pieces comprising the cash flow operations of a wastewater utility. Obviously, revenues must equal or exceed expenses for the operation to be financially healthy. If that is not the case, the utility is in trouble. Ultimately, facilities will deteriorate and violate discharge standards.

Keep in mind your examination is a "snap shot" view of where the utility's financial operations are at this particular time. Be aware of any blips in the snap shot. Is there anything unusual happening with the financial operations this year? For instance, were expenses down this year because of an unfilled vacancy? Were revenues off because of inadequate billing or collection procedures?

Where Do You Find Them?

Now you know how to recognize the user service charge system components. You know what each piece means. But where do you find them?

The pieces for the user service charge system puzzle are in the local government's financial records, the heads of local government managers and at the treatment facility. This means that YOU will venture into the land of local government to solve the puzzle. You must know what information to ask for, who to talk with, how to recognize what you see and how to interpret what you find.

The Evaluation... Step-by-Step

1

Understand why

- ✓ Know WHY you need to evaluate a wastewater user service charge system. Your evaluation may be a compliance check, particularly if federal or state grant or loan money was used to finance construction.
- ✓ Perhaps the local government requested your assistance in evaluating its user service charge system to improve it.

2

Recognize the pieces

- ✓ Be familiar with the components of a user service charge system. This booklet presents the *pieces*.

Prepare for the appointment

- ✓ Know what records you need to review: the most recent audit report; the current budget; the wastewater rate schedule; the sewer use ordinance; contracts with other utilities; debt service schedules.
- ✓ Contact the appropriate local government official—the wastewater system's financial manager, the local government's comptroller or finance director or utility manager.
- ✓ Schedule an appointment providing at least 2-4 hours for discussion, reviewing financial records and touring wastewater facilities.
- ✓ Ask the official to provide the appropriate records for the appointment.

Confirm

- ✓ Follow-up your telephone conversation with a letter (see sample on page 18) stating the purpose of your upcoming visit. Set a beginning AND ending time for the appointment and tell what records you need. Include the User Service Charge Worksheet so they can see what information you need.
- ✓ Confirm the meeting the day before the appointment.

5

At the appointment

- ✓ Discuss the operation with managers; review the system's financial records, ordinances and management policies; and complete the User Service Charge Worksheet.
- ✓ Tour the treatment facilities. Determine if what you see confirms the information you obtain from records and discussions with management.

6

Point out problems

- ✓ Talk over problems as you see them. Let the local government know what will be in your follow-up letter.

7

After the visit

- ✓ Use the User Service Charge Worksheet, your discussions with management, and what you saw at the treatment facility to develop a report.
- ✓ Advise the local government managers of your findings, conclusions, comments and recommendations. See page 20 for a sample letter.

8

Follow up

- ✓ Have the local government report back to you.
- ✓ Take any enforcement actions necessary to correct the problems you found during your evaluation.

Utility/Community Name: _____

Name of Local Contact: _____

Telephone Number: (_____) _____ - Date _____

User Service Charge Worksheet

Management/Operating Policies/Compliance

1. Describe any NPDES permit violation(s) which occurred within the last 12 months and the reason(s) for the violation(s).

2. Did insufficient operating revenues contribute to the NPDES violation(s)?

Yes No

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

Yes No

4. Does the utility have a pretreatment ordinance?

Yes No

5. Does the organizational structure of the wastewater utility present any operational problems?

Yes No

6. What is the annual personnel turnover rate?

7. Are the procedures for collecting delinquent wastewater bills adequate?

Yes No

Financial Information

1. Does the wastewater budget show revenues and expenses by line item? (Note: The wastewater budget should be separate from other governmental utility budgets like water, garbage disposal, etc.)

Yes No

2. 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	
<i>Total Budgeted Revenues</i>	

3. What are the total annual budgeted expenses for the wastewater operation?

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

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

BUDGETED REVENUES VS. ACTUAL		
	\$ Budgeted	\$ Actual
<i>Total Revenues</i>		

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

BUDGETED EXPENSES VS. ACTUAL		
	\$ Budgeted	\$ Actual
<i>Total Operating Expenses</i>		

6. Does the wastewater utility show a cash flow problem?

Yes **No**

ACTUAL REVENUES & EXPENSES	
	\$
<i>Total Revenues</i>	
<i>Total Operating Expenses (-)</i>	
Cash Available	

7. How does the utility cover a revenue deficit?

Worksheet-4

8. Does the utility review user service charges and adjust them annually to reflect budgeted or actual expenses?

Yes **No**

9. Does the utility have an equipment replacement fund (ERF)?

Yes **No**

10. What percentage of operation, maintenance and equipment replacement funds are set aside for equipment replacement? —

$$\begin{array}{l} \text{Equipment} \\ \text{Replacement} \\ \text{Fund} \\ \text{(ERF) (\%)} \end{array} = \frac{\text{ERF Costs}}{\text{(Total Operating Expenses) - (P\&I Payments)}} \times 100\%$$

ERF (%) =

11. Does a certified public accounting firm review the utility accounts?

Yes **No**

User Service Charge System

1. Does the utility distribute the wastewater collection and treatment costs proportionally to each user, user class or political jurisdiction?

(40 CFR Part 35)

Yes

No

2. Does the utility use a sewer use ordinance that incorporates a proportionate wastewater rate schedule? (Attach a copy.)

(40 CFR Part 35)

Yes

No

3. Does the utility distribute the I/I costs proportionally to each user, user class or political jurisdiction?

(40 CFR Part 35)

Yes

No

4. Does the rate schedule specify a uniform rate for wastewater treatment based on the volume of usage?

Rate = \$ /1000 gal

Yes

No

5. Does the rate schedule provide for a minimum charge?

Yes

No

6. What is the minimum charge?

\$

7. Are customers notified annually of the wastewater rates?

(40 CFR Part 35)

Yes

No

8. What is the actual total operation, maintenance, equipment replacement and debt service costs per 1000 gallons of wastewater treated by the utility?

Treatment Rate =
$$\frac{\text{OM\&R} + \text{Debt Service Costs}}{\text{Total Flow}} = \$ \text{ } / 1000 \text{ gal}$$

Worksheet-6

9. How does the utility determine wastewater user fees? (Check one)

Water meter readings?

Equivalent dwelling unit?

Other? (Specify) _____

10. Does the rate schedule specify surcharges for high-strength wastes?

Yes **No**

11. How does the utility determine surcharges?

12. What is the average annual wastewater bill for a typical residential user?

\$

13. Are users billed separately for wastewater services?

Yes **No**

14. Do all political jurisdictions served by the utility have a sewer use ordinance which incorporates a proportional wastewater rate schedule?

(40 CFR Part 35)

Yes **No**

15. Do users outside the utility's political boundary pay the same rate as inside users?

Yes **No**

16. Do all serviced political jurisdictions meet the same user service charge system conditions as the wastewater treating utility? (If No, describe.)

Yes **No**

Wastewater Facility Tour

1. What is the current average flow treated at the facility (gallons per day)?

gpd

2. Does the facility appear to operate normally?

Yes **No**

3. Is any equipment out of service? (Specify)

Yes **No**

4. Does maintenance appear satisfactory?

Yes **No**

5. Is good housekeeping evident?

Yes **No**

6. Is the laboratory clean and well-organized?

Yes **No**

7. Are adequate chemicals, supplies and parts on hand?

Yes **No**

8. Is staffing adequate for the operation?

Yes **No**

9. Are operators certified?

Yes **No**

10. Does the staff receive formal training?

Yes **No**

11. Do operational and compliance records appear adequate?

Yes **No**

12. Note other comments or problems:

Sample Letters

Initial letter to schedule an appointment for a user charge evaluation

(Date)

Mr. James Sullivan
Finance Director
City of Smithtown
100 S. Main St.
Smithtown, TN 37923

Dear Mr. Sullivan:

This letter confirms our appointment for (time), (month) (date), (year), and lets you know what information I will need to obtain during our meeting.

As we discussed on the telephone today, I will be evaluating Smithtown's wastewater user service charge system. I need to determine if it is generating sufficient revenues to cover operation, maintenance, equipment replacement and debt service costs. The evaluation will consist of (1) a meeting with you and your staff to discuss the utility's financial operations and (2) a brief tour of the wastewater facilities. These activities should take about four hours to complete.

I have enclosed a User Service Charge Worksheet I will use at the meeting. Please complete as much of this worksheet as you can before our meeting and be prepared to respond to the questions. I will also need to review the following information on your wastewater operation:

- the most recent audited financial statement,
- the current budget,
- current year-to-date revenues,
- current year-to-date expenses,
- the wastewater rate schedule and ordinance (or resolution), and
- the sewer use and pretreatment ordinances.

Please call me at (area code and number) with any questions you may have prior to our meeting.

Sincerely,

Anne Taylor,
Public Utility Specialist

enclosure

Follow-up letter after a user charge evaluation

(Date)

Mr. James Sullivan
Finance Director
City of Smithtown
100 S. Main St.
Smithtown, TN 37923

Dear Mr. Sullivan:

It was a pleasure to meet with you and your staff on (date) to discuss your wastewater utility's financial operations. As a result of our discussions and the tour of your wastewater treatment facility, I noted the following concerns.

1. The wastewater and water accounting systems are not separate. The water and wastewater operations need to be financially independent and self-sufficient. The Smithtown wastewater treatment facility was partially financed by a grant from the U.S. Environmental Protection Agency. This means Smithtown must establish a financial management system which separately accounts for wastewater revenues and expenditures. The system must also identify the basis for determining operation, maintenance, equipment replacement, debt service costs and user service charges.
2. The wastewater utility does not collect surcharges from users discharging high-strength waste although the Smithtown wastewater system's sewer use ordinance requires a surcharge on those users whose wastes increase operation and maintenance costs. This ordinance must be enforced as a condition of your EPA grant.
3. The actual wastewater expenses to date at the half-way point in this fiscal year are \$125,000. The total budgeted amount for the fiscal year is \$200,000. This results in a projected deficit of \$50,000 for the year. User service charges must be increased to provide the needed operating revenue since collection of surcharge revenues will not be sufficient to eliminate the deficit.

4. The wastewater unit volume rate is insufficient to cover the operational costs of the utility. A rough calculation showed that the OM&R costs are \$1.20/1000 gallons and debt service costs are \$0.60 for a total rate of \$1.80/1000 gallons.
5. The accounting system does not budget for an equipment replacement fund. You need an equipment replacement fund to pay for equipment and accessories that wear out during the life of the treatment facility. The fund is not to be used for expanding the capacity or enhancing the treatment facility's performance. It must be used to keep the facility operating at the level for which it was designed and constructed. Again, this is a requirement of the EPA.
6. At the treatment facility, the secondary clarifier sludge return pump was inoperable and a backup pump was not available. The sludge return pump is essential to proper operation. As we discussed during the visit, you should install a temporary pump as soon as possible and repair or replace the inoperable sludge pump. You need a backup pump to prevent this circumstance from reoccurring.
7. The treatment plant grounds were poorly maintained. The grass needed mowing; discarded equipment was lying around; spillage from the sludge hauling operation created a nuisance. The appearance of a wastewater treatment facility is usually a good indicator of the level of professionalism, motivation and training of the staff. It also may be an indicator of inadequate funding/staffing of the treatment facility. As a result of our discussions and tour of the facilities, it appears that additional staff is needed to achieve proper operation and maintenance.
8. At the treatment facility, there was only a two-day supply of chlorine and a limited supply of laboratory reagents and chemicals on hand. Good management practice requires an adequate supply of essential chemicals and reagents on hand to operate and maintain the facility properly. From our discussion, it appears the Smithtown utility should revise its purchasing procedure to allow the superintendent to order routine supplies directly without waiting for governing body approval.

9. This system had exceeded its monthly average BOD NPDES permit limit for two consecutive months. The major cause of this violation appears to be inadequate sludge return. The pump outage discussed above should be rectified immediately.

Many of the above concerns are consistent with the conclusion that Smithtown's wastewater treatment facility needs more financial resources for proper operation and maintenance. I have enclosed a copy of EPA's publication *Building Support for Increasing User Fees* that tells how to increase the facility's revenue base.

Please develop a corrective action plan with compliance dates to address the above findings, and submit the plan to this office no later than (date).

Our office will be glad to work with the City of Smithtown to protect its water quality and improve its wastewater financial operations. If you have questions about this report, please feel free to call me at (area code and number).

Sincerely,

Anne Taylor,
Public Utility Specialist

enclosure

cc: Mayor
City Council

Appendix

Key EPA Regulatory Requirements for a User Charge System

A User Charge System:

	Regulatory Citation <u>40 CFR Part</u>
<ul style="list-style-type: none"> Distributes OM&R costs for wastewater treatment to users (or user classes) in proportion to the total loading of each user (or user class); but, allows a lower user charge for low-income residential users after public notice and hearing. - 	35.2140 (a)(b)(i) (Section 204(b) of Clean Water Act)
<ul style="list-style-type: none"> Generates sufficient revenue to offset OM&R costs. 	35.2140 (a) (b)
<ul style="list-style-type: none"> Allows the user charge system to be based on actual use or, under certain conditions, to be based on ad valorem taxes. 	35.2140 (a) (b)
<ul style="list-style-type: none"> Establishes user classes as required. 	35.2140 (a) (b)

- Notifies users annually of user charge rates and the portion of ad valorem taxes (if any) related to wastewater treatment services. **35.2140 (c)**
- Establishes a financial management system to account for revenues and expenditures. **35.2140 (d)**
- Distributes infiltration/inflow costs among all users. **35.2140 (e)**
—
- Requires that toxic dischargers pay for the incremental costs of treatment and sludge disposal. **(Section 301 of Clean Water Act)**
- Is adopted by all local government(s) that contribute wastes to the treatment works through legislative enactments or other appropriate authority. **35.2140 (g)**
- Goes into effect before the treatment works begins operation and remains in effect during the useful life of the treatment works. **35.2208**