

Useful Information for Preparing the PUC MODEL WASTEWATER TARIFF

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PUC MODEL WASTEWATER TARIFF

I. Introduction

Of all public utilities, wastewater treatment systems are probably the most abused through misuse. This situation has come about because of a common misbelief that a collection system can carry away any unwanted substance or object that can be put into it. This misbelief may be compounded by a lack of adequate regulations setting forth the proper use and limitations of the system, and the lack of complete enforcement of the regulations governing its use. The adoption of a practical and sound regulatory tariff fitted to local conditions is the first requirement if proper usage of a wastewater treatment system is to be realized. An approved tariff is the basis for public education about correct and incorrect uses of the system. Properly enforced, it will result in safer, better wastewater collection and treatment service at a minimum cost.

II. Purpose

The purpose of the model tariff is for governing the use of the wastewater treatment system, the installation and connection of customer facilities to the system, the collection of wastewater service charges, and the rights and responsibilities of customers. The model tariff pertains to residential and light commercial users having domestic wastewater characteristics.

In instances where the character and magnitude of wastewater discharges exceed domestic wastewater characteristics, such as with fast food and automotive repair establishments, additional supplementary rules and regulations would need to be considered. In addition, the model tariff does not provide standards for the regulation of certain commercial and industrial users who fall under the categorical pretreatment standards found at Title 40 Code of Federal Regulations Chapter I, Subchapter N, Parts 403-471. The model tariff does, however, cover general wastewater use requirements in Section F, Part III to prohibit the discharge of wastewater with characteristics that would create hazards, cause physical damage or interfere with normal operation of the system.

The owner should not accept the model tariff verbatim. Some municipalities have incorporated limited regulations for control of the wastewater treatment systems into plumbing ordinances and general sanitation codes. Consistency should be maintained with respect to coverage of the same items in the Company's wastewater tariff and the related local regulations. The model tariff does maintain this consistency with respect to the coverage of a customer facilities and the International Plumbing Code¹(IPC).

It can not be emphasized enough that the owner of the public utility will need to work closely with the local jurisdiction building code department. A soundly conceived Memorandum of Understanding between the owner of the public utility and local jurisdiction code officials is a useful tool in alleviating wastewater problems from a customer facilities by effectively coordinating inspection, testing and enforcement responsibilities. This memorandum should also address coordination with respect to inspection and testing responsibilities when repairs to customer facilities are necessary.

¹ With one exception, the nomenclature with regards to the word sewer, as in building sewer, has been substituted with building service line to be consistent with a Commission Final Rulemaking Order at Docket No. L-00950112.

Following are some guidelines to consider when using the PUC Model Tariff for a compliance filing.

III. Guidelines

A. Unpolluted Drainage

Many wastewater treatment plants and pumping facilities are plagued by extreme wet weather flow rates resulting from downspouts, foundation drains, surface water connections, and excessive infiltration of ground water into the collection systems. Discharge of large amounts of this unpolluted drainage unduly handicaps the efficiency of plant operation, increases operating costs, and may necessitate early enlargement of the treatment facilities. In addition, its a violation of the facility's National Pollutant Discharge Elimination System (NPDES) permit. Close cooperation with the local municipal code officials with respect to inspection, testing and enforcement responsibilities are necessary to achieve the best results because the mileage of pipes serving as building service lines is at least equal to the mileage of the Company's collection mains and service laterals.

B. Root Problems

If roots are present in the drainage pipes they indicate that the pipe is not watertight and that the seals have been broken or compromised. Roots could also indicate a broken pipe resulting from poor installation or some type of traffic occurring over the pipe. In any case, the point of entry of the roots needs to be found and fixed. Simply removing the roots and restoring flow is not a long term solution. Neither is replacing the vegetation over the pipe with something that has less invasive roots. Today with inspection cameras, the pipes and joints can be easily accessed and evaluated. If a pipe is broken it needs to be replaced. If the pipe joints cannot be properly sealed and made watertight (pass an air test), the pipe needs to be replaced, as well. Remember that roots are an indication of a larger problem with the drainage system.

C. Grease Traps and Grease Interceptors

In the past, before watertight pipe joints became the standard of design for all pipe connections used in the construction of drainage systems, the most common obstruction were tree roots. Today, the most common obstruction is blockage by grease accumulations. The U.S. Environmental Protection Agency (EPA) statistics show that nearly 75% of our nation's municipal collection systems are only working at half capacity due to grease related build-up. As the grease hardens, it clings to the inside of collection lines. As layer upon layer hardens, the pipe eventually becomes completely blocked. A blocked pipe can cause wastewater to back up into homes or businesses and may even cause manholes to overflow, creating a public health hazard. As much as 40% of the overflows from manholes to the surface environment has been attributed to clogged pipes due to excessive grease build-up. Pipe clogging by grease accumulations is preventable. The amount of grease usually present in domestic wastewater alone will not cause clogging if the building drain and service lines are adequate size and properly constructed, although the widespread use of home garbage disposals have intensified the grease problem in many collection systems.

Building service lines from club and bar kitchens, school and hospital cafeterias, or restaurants are often clogged by grease, and many industries discharge waste that is objectionably high in grease content. A full-service restaurant could generate up to two tons of fats, oils and greases (FOG) per year, which is exceptionally sticky and difficult-to-manage. A fast food restaurant usually involves a larger amount of FOG than a family diner. Since

residential customers are not required by the IPC to have grease traps, their use is not covered in the model tariff. The model tariff does provide Prohibited Wastewater Discharge limits that should prevent clogging from greases, if they are enforced by the public utility. The model tariff does not however specify how these prohibited wastewater discharge limits shall be met.

If it is known that a number of commercial food preparation establishments are to be users of the system, then language should be added to address certain minimum and expected requirements. All such establishments are required by the IPC to have grease traps and grease interceptors. The public utility may be able to rely on the requirements of Chapter 10 of the IPC pertaining to Traps, Interceptors and Separators. However, the public utility should perform its own testing after installation of these devices to verify that they are working properly by checking the temperature of the water near the effluent side of the device during a peak flow period. Often the tank volume does not account for peak flow periods that are common in food service applications. The problems occur when grease traps are not cleaned regularly and surge flows allow the warmer incoming liquid to resuspend the grease already in the device. If the water temperature is too hot, the grease is probably in suspension as it leaves the device. Another grease trap or interceptor, installed in series, may be necessary. In addition, experience has shown that lack of periodic inspection and cleaning of grease traps by the commercial establishments is the norm. A grease trap should be serviced every 30 to 60 days to remove the brown greases.

It is recommended that grease traps be located outside of the building in a readily accessible area. Indoor grease traps are objectionable to maintain, it's a messy job accompanied by foul odors and thus will not receive the required routine service attention necessary. The initial testing and routine inspection of these devices must be the responsibility of the public utility if FOG problems are to be prevented. If such commercial or public establishments with grease traps are to be users of the system then provisions should be included in the tariff to adequately administer, test and inspect. Experience has shown that the amount of personnel time devoted to grease issues is disproportional to the volume of materials handled. Therefore, the tariff rates should be adequately designed to fairly share the added cost necessary to administer such service to these customers.

D. Commercial Garbage Disposals

The public utilities should also weigh all concerns before allowing the use of commercial garbage disposals because of the impact on the collection and treatment system. Collection systems are not designed to handle large amounts of solid materials. Use of garbage disposals require adding a lot of water to transport the solids. A typical U.S. household contributes approximately 11.5 gallons of wastewater per day as a result of using a garbage disposal. A larger commercial garbage disposal unit will be contributing a lot more water. The solids and additional water can overtax valuable collection system and wastewater treatment capacities.

Garbage disposals are a convenience to the customers, but they may not be something your infrastructure is designed to support. A garbage disposal can double the organic loading from a typical household. The installation of garbage disposals are typically banned in homes using an on-lot system, and many municipalities are considering prohibiting their use on public systems. The sanitary engineer who designed the wastewater treatment system should be consulted for further guidance of their use. If a decision is made to allow the use of commercial garbage disposals, they should only be installed with grease traps and such language will need to be added to the model tariff.

E. Oil Separators

Another area that may need to be addressed in the tariff is banning the use of oil separators by automotive repair establishments as required by the IPC. Environmental and safety concerns are causing many municipalities to ban the use of floor drains in any enclosed areas where motor vehicles are serviced or repaired. Mineral oils are not considered biodegradable in biological treatment systems. Today's best available practices for these facilities include waste prevention, recycling and dry cleanup of spilled materials. If such commercial enterprises are users, it is important they are aware of the danger to the system and of the inability of the wastewater treatment plant to treat even small discharges of automotive fuels and lubricates. The model tariff prohibits their discharge to the collection system, but enforcement may be a problem. Requiring an oil separator and/or prohibiting floor drains would be a good recommendation to consider implementing by addressing this issue in the tariff.

F. Construction Specifications

Construction material specifications are not included in the model tariff. Readily available specifications for the procedures and materials acceptable in the construction of the underground facilities are necessary if the owner is to maintain quality control. The owner can rely on specifications contained in the IPC for a customer facilities; however, for the Company's collection main extensions and service laterals, it will need to have its own written specifications. An 8½ by 11 drawing showing a typical service lateral construction with noted details on allowable materials used to construct the company service lateral and materials to join the building service line to the lateral would be a helpful handout to those doing the field work. The utility owner's decision to have a cleanout installed in its service lateral could be shown on this drawing. There are many pros and cons to the installation of service lateral cleanouts that will need to be discussed with the Company's sanitary engineer. Service lateral cleanouts are generally not installed during the construction of the collection mains and service laterals. Since service lateral cleanouts are not required by the IPC, the utility owner may want to specify their installation by adding it to their tariff language or by showing it on the "handout" drawing. If service lateral cleanouts are to be installed, it is highly recommended that their tops be buried below the finish grade, to avoid damaging them during lawn care.

Most utilities maintain a "cut-sheet" book to document the locations and depths of all service lateral connections. The initial completion of these cut-sheets is generally done during the construction of the Company's collection mains and would require updating whenever new service laterals were added. The Connection Permit Application and Building Service Line Inspection Charge would include the cost of labor necessary to maintain these invaluable records.

G. Municipal Wasteload Management Regulations

All owners should have a copy of the designer's report² in addition to the plans and specifications for all of the wastewater treatment facilities for permanent reference. The designer's report will contain the controlling assumptions made and factors used in the functional design of the facilities. The information contained within this report will be helpful in the design of rates and in the control and allocation of customer service connections. Although annual wasteload management reports submitted to PA Department of Environmental Protection (DEP) is not required by publicly owned wastewater treatment facilities, it is highly

² This report is prepared by the Professional Engineer who designed the facilities. Copies of this report are filed with the PA Department of Environmental Protection during the permitting phase of the sewerage system.

recommended that the guidelines specified in Chapter 94, Municipal Wasteload Management Regulations by DEP, be followed. The wasteload management report should be helpful in monitoring existing and future hydraulic and organic loadings to the wastewater collection and treatment system. Such knowledge is necessary so that a corrective action plan can be developed on a timely basis to reduce overloads and/or provide needed capacity.

H. An Acceptable Schedule of Charges

The development and design of an acceptable schedule of charges, Part I of the model tariff, will require securing competent advice so rates are established for individual customers in accordance with their cost of service so as to generate sufficient revenues to meet the total revenue requirement. The model tariff outlines a number of possible charges which may be proposed to meet the total revenue requirement of the utility operation. The intent of Part I is not to provide a simplistic, pick and choose approach to rate design but to show the type of charges that could be reasonable and equitable when properly supported. Again, we must stress that this information is not to be used without securing competent advice with respect to providing the documentation required to support any and all of the charges that are to be proposed. If one needs to obtain a better understanding of the complexity of rate making, we suggest a publication entitled "Financing and Charges for Wastewater Systems" written in conjunction with the American Public Works Association, the American Society of Civil Engineers, and the Water Pollution Control Federation.

I. Additional Considerations

The model tariff mentions a number of forms needed to be completed by the customers in order to provide written document of various requests. For instance Part III, Section A, Part 1 requires an application of service to be in writing on an Application form provided by the Company. And in the following Part 3, such application shall be considered acceptable by the Company only upon written approval. Attached to these guidelines are sample copies of forms that can be used as a guide to meet these requirements. These forms need not be made part of the tariff itself.

In addition to these forms, the model tariff mentions a number of agreements such as the Collection Main Extension Agreement for a Bona Fide Service Applicant or for a Land Developer. The model tariff mentions that the Extension Agreement includes both a Preliminary and a Final Memorandum and possibly a Master Agreement, when collection main extensions are to be made in phases over a period of time by the same entity. These agreements and memorandums are mentioned in Sections G & H, Part III of the model tariff. Section G must be included in all approved tariffs but Section H is optional.

Two additional agreements mentioned within the model tariff are the payment arrangement and the Equivalent Dwelling Unit (EDU) allocation agreement. Most likely, from time to time, the Company will be entering into payment agreements; however, the EDU allocation agreement will only be needed if the Company's tariff includes fees for reserving capacity in the facilities. As with any legal document, the Company should rely on its legal council to prepare these agreements. Draft copies of these agreements need not be made part of the tariff itself.

IV. Conclusion

In conclusion, regulation of the use of the wastewater treatment system and its vigorous enforcement is necessary for public health and safety and for the economic viability of the local

community. The mere approval of a tariff does not insure compliance. Diligent enforcement is just as important, if not more so, than the drafting and approval of the tariff. A copy of the model tariff can be downloaded, in either PDF or Word form, from the PUC web site at <http://www.puc.state.pa.us/general/onlineforms.aspx#Water%20Forms> and by scrolling down to Water Forms, “Sample Tariffs for Wastewater Companies”.

Sample Forms

1. Application for a Connection Permit
2. Building Service Line Connection Permit
3. Application for Exoneration of Vacated Property
4. Application for Residential Service

Company Name

APPLICATION FOR A CONNECTION PERMIT

Permit No. _____

This Application Must Be Completed Prior to Requesting a Building Service Line Connection Permit

Date: _____

The undersigned hereby makes application for permission to connect the sanitary drainage system of the below described improved property to the Company's Wastewater System. The following facts are represented by the undersigned to be a true basis for granting such permission:

1. Address of property to be connected: _____
2. Name of property owner: _____
3. Address of property owner (if different than No. 1): _____
4. Phone No.: _____ email Address: _____
5. Check type of service to be connected:

<input type="checkbox"/> Residential	<input type="checkbox"/> Nonresidential	<input type="checkbox"/> Commercial
<input type="checkbox"/> Educational	<input type="checkbox"/> Special Utility	<input type="checkbox"/> Industrial
<input type="checkbox"/> Institutional	<input type="checkbox"/> Reserved Capacity	<input type="checkbox"/> Multiple Use Improved Prop.

6. Uniform Construction Code (Building) Permit No. _____
7. Name of firm or person and telephone employed to install the building service line:

Name of applicant (please print)

Signature of applicant

Date

Signature of applicant

This space for official use only

Date Permit approved: _____ Date Connection made: _____

Type and Size of pipe _____

Inspected by _____ Approved by _____

Number of units to be charged toward property: _____

Statements, Notes and Agreements:

Company Name

BUILDING SERVICE LINE CONNECTION PERMIT

Permit No. _____

Date Approved and Issued: _____

The below named applicant, having submitted an official application and having satisfactorily removed all obligations concerning the applicable Company's building service line inspection fee, and furthermore being completely familiar with the existing Rates, Rules and Regulations of the Company's Tariff, is hereby granted permission to connect the building service line of the below described improved property with the wastewater facilities of the Company, subject to all requirements of the said Company's Tariff, all statements and agreements made by the applicant on the official application and to the regulations of the *International Plumbing Code* of [NAME OF JURISDICTION].

Signed _____
(for the Company)

Name of the Owner: _____

Address of Owner: _____

Address of Improved Property: _____

The permit holder or an authorized agent shall notify the Company when work is ready for inspection and provide access for the inspection. The work shall remain accessible and exposed for inspection. The Company may inspect the work only during normal hours unless the permit holder or agent requests or agrees to another time. At the time of this inspection, the notice of approval issued by the code official for the prescribed test and inspection of the building service line shall be made available.

Notes:

Company Name

APPLICATION FOR EXONERATION OF VACATED PROPERTY

(to be completed by the property owner)

This application has been prepared and hereby submitted by the undersigned for the purpose of obtaining an exoneration from User Charges on the basis of a condition of vacancy existing at the below described improved property, provided the said property has been vacated for a period of thirty (30) consecutive calendar days and that all utilities such as water, gas, electricity, telephone, cable, etc., have been disconnected during this period. Where a customer requests the restoration of service within six (6) months of having service disconnected, the customer shall be subject to monthly minimum billing for that period.

1. NAME OF PROPERTY OWNER (Print)

2. ADDRESS OF PROPERTY OWNER

(Number, Street)

(City) (State) (Zip Code)

3. ADDRESS OF PROPERTY

(Number, Street and Apartment Number)

(City) (State) (Zip Code)

4. THE FOLLOWING UTILITIES WERE DISCONNECTED ON:

WATER:	_____	_____	_____
	(Month)	(Day)	(Year)
ELECTRIC:	_____	_____	_____
	(Month)	(Day)	(Year)
GAS:	_____	_____	_____
	(Month)	(Day)	(Year)
PHONE:	_____	_____	_____
	(Month)	(Day)	(Year)
CABLE:	_____	_____	_____
	(Month)	(Day)	(Year)

5. THE CURRENT USER CHARGE RATE IS \$_____ PER YEAR

Property Owner's Signature (Date)

Company Name

APPLICATION FOR EXONERATION OF VACATED PROPERTY

This portion of the application is to be completed by the property owner at such time as the property is no longer vacant and User Charges are to commence.

1. THE FOLLOWING UTILITIES WERE OR ARE TO BE RE-CONNECTED ON:

WATER:	_____	_____	_____
	(Month)	(Day)	(Year)
ELECTRIC:	_____	_____	_____
	(Month)	(Day)	(Year)
GAS:	_____	_____	_____
	(Month)	(Day)	(Year)
PHONE:	_____	_____	_____
	(Month)	(Day)	(Year)
CABLE:	_____	_____	_____
	(Month)	(Day)	(Year)

2. NAME OF TENANT (Print) (if applicable)

3. DATE SERVICE IS REQUESTED TO BEGIN:

(Month) (Day) (Year)

Property Owner's Signature

(Date)

TO BE COMPLETE BY THE COMPANY:

1. DATE USER CHARGES WILL COMMENCE:

(Month) (Day) (Year)

2. NUMBER OF UNITS TO BE CHARGED TOWARD PROPERTY: _____

3. RATE: \$ _____ PER _____.

Company Name

APPLICATION FOR RESIDENTIAL SERVICE

This application has been prepared and hereby submitted by the undersigned for the purpose of obtaining a contract for wastewater service to an individual, single-family residential dwelling unit at the below described improved property which is presently connected to the system.

1. NAME OF PROPERTY OWNER (Print)

2. BILLING ADDRESS OF PROPERTY OWNER

(Number, Street)

(City)

(State)

(Zip Code)

3. ADDRESS OF IMPROVED PROPERTY

(Number, Street)

(City)

(State)

(Zip Code)

4. THE FOLLOWING UTILITIES WERE OR ARE TO BE RE-CONNECTED ON:

WATER:

_____ (Month) (Day) (Year)

ELECTRIC:

_____ (Month) (Day) (Year)

GAS:

_____ (Month) (Day) (Year)

PHONE:

_____ (Month) (Day) (Year)

CABLE:

_____ (Month) (Day) (Year)

5. DATE SERVICE IS REQUESTED TO BEGIN:

_____ (Month) (Day) (Year)

Property Owner's Signature

(Date)

TO BE COMPLETE BY THE COMPANY:

1. DATE USER CHARGES WILL COMMENCE:

_____ (Month) (Day) (Year)

2. RATE: \$ _____ PER _____.