

# Chapter 109

## Safe Drinking Water

### *Supporting Information for Proposed Fees*

*June 4, 2010*

# Authority to Assess Fees

## ***PA Safe Drinking Water Act***

***(35 P.S. § 721.4)***

***Section 4. Powers and duties of Environmental Quality Board (EQB).***

***(c) Fees to be established. – The EQB shall establish fees for permit applications, laboratory certification and other services. Such fees shall bear a reasonable relationship to the actual cost of providing a service.***

# Purpose of Proposed Fees

- ***Protect public health.***
- ***Supplement state costs for administering the Drinking Water Program.***
- ***Ensure state and federal program commitments are met and primacy is retained.***

# Protect Public Health

- ***PA Facts***
- ***Safe Drinking Water Program Facts***
- ***Safe Drinking Water Workload***
- ***Case Studies***

# PA Facts

***Population = 12,448,279***

- ***Ranked 6<sup>th</sup> in nation***

***State employees per population***

- ***Ranked 49<sup>th</sup> in nation***

***PA complement = 76,639***

- ***DEP complement = 2,488 (3.2%)***
- ***DEP complement trend from 2001 – 2009***  
***510 positions have been cut (17%)***

# Drinking Water Program Facts

***Number of PWSs = 9,400***

- ***Ranked 4<sup>th</sup> in Nation***

***PA pop served by PWSs = 10.7 M***

***Drinking Water complement = 197***

- ***Field Ops complement = 155***

- ***Number of sanitarians = 67***

- ***Number of PWSs per san = 140***

# Other Workload Activities

- *Current regulatory workload*
- *Future regs/emerging contaminants*
- *Emergency response*

# Current Regs

*PA received primacy in 1985.*

*The SDWA was reauthorized in 1986,  
resulting in 6 new regs.*

*The SDWA was again reauthorized in  
1996, resulting in 17 new regs.*

*Congress is currently reviewing the  
SDWA for reauthorization.*



# Future Regs

- ***TCR Revisions***
- ***Distribution System Rule***
- ***Radon Rule***
- ***LCRLTR***
- ***Emerging Contaminants***

# Workload Analysis

- ***Applies to Field Operations.***
- ***Includes activities needed to protect public health.***
- ***Includes activities to meet State and Federal commitments and retain primacy.***

# Workload Analysis

## ***Includes the following categories:***

- ***Surveillance***
- ***Plan reviews***
- ***Self-monitoring review and compliance***
- ***Compliance assistance***
- ***Enforcement***
- ***Data management***
- ***Permitting***
- ***FPPEs***
- ***Training***
- ***Administration***
- ***Emergency response***

# Workload Analysis

*For each activity, a template was created with standard hours per output.*

*For the most part, the outputs are objective – based on state or federal mandates or policies.*

*For example:*

- *DEP must conduct a sanitary survey at all CWSs every 3 years.*
- *A sanitary survey (or full inspection) at a small CWS takes 22.5 hours. This includes the time to prepare/review files, conduct the inspection, and write the final report.*

*Each region completed the template using the appropriate numbers (i.e., # PWSs in the region, etc.).*

*The final numbers were tallied by CO to determine the workload and number of FTEs needed.*

# Workload Analysis Results

	SERO	NERO	SCRO
Operations Section	19573.5	41554	43197
FTEs	11.7	24.7	25.7
Technical Services Section	6115.5	4280	15540
FTEs	3.6	2.5	9.3
FPPE Activities	1282.5	1617.5	3530.5
FTEs	0.8	1.0	2.1
Common Activities	11232	19473.5	10743
FTEs	6.7	11.6	6.4

# Workload Analysis Results

	SERO	NERO	SCRO
Supervisory Staff	4872	7056	9072
FTEs	2.9	4.2	5.4
Total Program Hours	43075.5	73981	82082.5
Calculated FTEs	25.6	44.0	48.9
Complement FTEs	14	34	37
Difference	-11.6	-10.0	-11.9

# Workload Analysis Results

	NCRO	SWRO	NWRO
Operations Section	18732	18564.5	22649.34
FTEs	11.2	11.1	13.5
Technical Services Section	5320.5	8330.5	3192.3
FTEs	3.2	5.0	1.9
FPPE Activities	2163	4458	1807.5
FTEs	1.3	2.7	1.1
Common Activities	7453	5886.5	4122.5
FTEs	4.4	3.5	2.5

# Workload Analysis Results

	NCRO	SWRO	NWRO
Supervisory Staff	4536	5712	5712
FTEs	2.7	3.4	3.4
Total Program Hours	38204.5	42951.5	37483.64
Calculated FTEs	22.7	25.6	22.3
Complement FTEs	20	24	16
Difference	-2.7	-1.6	-6.3



# Workload Analysis Impact

- *The workload analysis supports a return to the pre-furlough complement.*
- *The proposed sanitarian complement will lower the PWSs/san ratio from 140 to 125.*
- *Total complement = 197*

# Positions Included in Fees

Position	CO	SERO	NERO	SCRO	NCRO	SWRO	NWRO
Clerical	3	2	2	2	2	2	2
Data	5	0	0	0	0	0	0
Chemist	1	0	0	0	0	0	0
Engineer	2	3	4	4	3	3	3
Manager	8	4	8	8	5	5	5
EPCS	0	3 (2)	2 (2)	5 (4)	4 (3)	4 (3)	2 (2)
Hydro	1	1	0	3 (2)	2	1	0
San	0	8 (2)	23 (5)	19 (3)	9 (1)	8	9 (2)
WPS	7	0	0	0	0	0	0
<b>TOTAL</b>	<b>27</b>	<b>21</b>	<b>39</b>	<b>41</b>	<b>25</b>	<b>23</b>	<b>21</b>

# Case Studies

## ***Waterborne Disease Outbreaks:***

- ***EPA data***
- ***CDC data***

## ***PA Case Studies***

# Case Study #1

## ***Southwest Pennsylvania, 2009***

- ***Headline: “Water tests faked”***
- ***From 2004 – 2009, the operator collected TCR and DBPR compliance samples from an in-plant lab sink and falsified chain of custody forms to indicate the samples were from the distribution system.***
- ***Since required distribution system monitoring was not conducted, we cannot be sure the water was safe to drink during that time period.***
- ***DEP discovered the misconduct during surveillance activities.***
- ***The Attorney General’s Office charged the operator with making false statements to DEP.***

# Case Study #2

## ***Southeast Pennsylvania, 2009***

- ***Operator plead guilty to charges associated with his actions in the aftermath of a major water main break.***
- ***The charges were unsworn falsification to authorities regarding the date and results of coliform bacteria samples collected in response to the water main break.***
- ***Sample results were falsified in an attempt to avoid notification to DEP and to the public via a BWA.***

# Case Study #3

## ***Northwest Pennsylvania, 2008***

- ***During a FPPE, DEP uncovered serious problems with the filter plant, including problems with pre-treatment, the integrity of the filters, and backwashing practices.***
- ***DEP also determined that compliance monitoring results for turbidity were being falsified or unreported.***
- ***DEP ordered an immediate BWA and a take-over of the facility. The owner is no longer in the water business.***
- ***Final penalties are still being determined. DEP estimates more than 1,000 staff hours were invested in this case.***

# Case Study #4

## ***Northwest Pennsylvania, 2007***

- ***During a routine inspection, DEP uncovered serious violations spanning at least 3 months.***
- ***A review of plant records identified at least 40 occasions where the filter plant failed to maintain a minimum residual of at least 0.2 mg/L as required by the SWTR.***
- ***Failure to maintain a residual at the EP constitutes a breakdown in treatment and requires notification to DEP within 1 hour and Tier 1 PN ASAP, but within 24 hours. DEP and the public were never notified.***

# Case Study #5

## ***Southcentral Pennsylvania, 2006***

- ***During a routine inspection, DEP discovered a newly constructed PWS was serving water to the public without an operations permit.***
- ***In addition, the PWS was using an untested well and adding treatment chemicals that did not meet safety standards.***
- ***No monitoring was being conducted to ensure the safety of the water.***



# Case Study #6

## **Walkerton, Ontario (May 2000)**

- **7 people died and more than 2,300 became ill**
- **Agents: *E. coli* O157:H7 and *Campylobacter jejuni***
- **Heavy rains washed manure into nearby wetlands and into the aquifer serving the town's wells. The chlorine residual was overcome by the heavy loading of pathogens. The operators ignored positive *E. coli* sample results, were not monitoring residuals, and failed to take appropriate actions.**
- **An investigation uncovered years of improper and fraudulent behavior, including falsifying sample results, failing to monitor residuals, and failing to properly operate the PWS.**
- **According to the investigation, the environmental agency should have uncovered the serious problems at the PWS. However, budget cuts led to fewer inspections and diminished oversight.**

# Proposed Annual Fees

- ***Based on approximate level of service.***
- ***Adjusted for system size.***
- ***Fees range from \$300 - \$60,000.***
- ***Estimated fee for small CWS (25-100):***

▪ <b><i>Conduct full inspection</i></b>	<b><i>15 hrs/3 yrs = 5 hrs</i></b>
▪ <b><i>Determine compliance</i></b>	<b><i>12 hrs</i></b>
▪ <b><i>Maintain PADWIS/eFACTS</i></b>	<b><i>7.5 hrs</i></b>
▪ <b><i>Review reports/plans</i></b>	<b><i>2 hrs</i></b>
▪ <b><i>Provide tech. assist./training</i></b>	<b><i><u>7.5 hrs</u></i></b>
	<b><i>34 hrs @ \$40/hr = \$1,360</i></b>

***Adjusted fee = \$300***

# Proposed Annual Fees

- ***Estimated fee for medium CWS (population = 5,000):***

▪ <b><i>Conduct full inspection</i></b>	<b><i>22.5 hrs/3 yrs = 7.5 hrs</i></b>
▪ <b><i>Conduct other insp.</i></b>	<b><i>7.5 hrs</i></b>
▪ <b><i>Determine compliance</i></b>	<b><i>12 hrs</i></b>
▪ <b><i>Maintain PADWIS/eFACTS</i></b>	<b><i>7.5 hrs</i></b>
▪ <b><i>Review reports/plans</i></b>	<b><i>7.5 hrs</i></b>
▪ <b><i>Provide tech. assist./training</i></b>	<b><i><u>7.5 hrs</u></i></b>
	<b><i>49.5 hrs @ \$40/hr = \$1,980</i></b>

***Adjusted fee = \$10,000***

# Proposed Annual Fees

- ***Estimated fee for large CWS (population = 50,000):***

▪ <b><i>Conduct full inspection</i></b>	<b><i>30 hrs/3 yrs = 10 hrs</i></b>
▪ <b><i>Conduct other insp.</i></b>	<b><i>10 hrs</i></b>
▪ <b><i>Determine compliance</i></b>	<b><i>15 hrs</i></b>
▪ <b><i>Maintain PADWIS/eFACTS</i></b>	<b><i>10 hrs</i></b>
▪ <b><i>Review reports/plans</i></b>	<b><i>7.5 hrs</i></b>
▪ <b><i>FPPE</i></b>	<b><i>75 hrs/3 yrs = 25 hrs</i></b>
▪ <b><i>Provide tech. assist./training</i></b>	<b><i><u>7.5 hrs</u></i></b>
	<b><i>85 hrs @ \$40/hr = \$3,400</i></b>

***Adjusted fee = \$50,000***

# Proposed Annual Fees

- ***Estimated fee for very large CWS (population = 100,000):***

▪ <b><i>Conduct full inspection</i></b>	<b><i>112.5 hrs/3 yrs = 37.5 hrs</i></b>
▪ <b><i>Conduct other insp.</i></b>	<b><i>10 hrs</i></b>
▪ <b><i>Determine compliance</i></b>	<b><i>15 hrs</i></b>
▪ <b><i>Maintain PADWIS/eFACTS</i></b>	<b><i>10 hrs</i></b>
▪ <b><i>Review reports/plans</i></b>	<b><i>7.5 hrs</i></b>
▪ <b><i>FPPE</i></b>	<b><i>75 hrs/3 yrs = 25 hrs</i></b>
▪ <b><i>Provide tech. assist./training</i></b>	<b><i><u>7.5 hrs</u></i></b>
	<b><i>112.5 hrs @ \$40/hr = \$4,500</i></b>

***Adjusted fee = \$60,000***

# Issues for Discussion

- *Ability to pay vs. fee based on cost of providing a service*
- *Fee based on population vs. # connections*
- *Payment schedule*
- *Consequences for not paying fee*
- *Others?*

# Example: Fee per Connection

- **Total population = 10.7 M**
- **Total # connections =  $10.7 \text{ M} / 2.7 = 4 \text{ M}$**
- **Need \$7 M from CWS fees**
- **\$1.75 / connection**
- **Examples:**

<b>Pop</b>	<b>#Connections</b>	<b>Fee</b>	<b>Service Cost</b>	<b>% of Cost</b>
25	9	\$15.75	\$1,360	1.16%
125	46	\$80.50	\$1,515	5.31%
750	278	\$486.50	\$1,670	29%
3,300	1,222	\$2,138.50	\$1,825	117%
10,000	3,704	\$6,482.00	\$1,980	327%
50,000	18,518	\$32,406.50	\$3,400	953%
100,000	37,037	\$64,814.75	\$4,500	1,440%
120,000	45,052	\$78,841.00	\$4,500	1,752%
160,000	59,259	\$103,703.25	\$4,500	2,305%
250,000	92,592	\$162,036.00	\$4,500	3,601%
660,000	244,444	\$427,777.00	\$4,500	9,506%
820,000	303,704	\$531,482.00	\$4,500	11,811%
1,600,000	592,593	\$1,037,037.75	\$4,500	23,045%

# Example: Fee per Connection

➤ *Other examples:*

<i><u>Facility</u></i>	<i><u>Pop</u></i>	<i><u># Connections</u></i>	<i><u>Fee</u></i>
<i>Nursing home</i>	<i>30</i>	<i>1</i>	<i>\$1.75</i>
<i>Nursing home</i>	<i>400</i>	<i>1</i>	<i>\$1.75</i>
<i>Prison</i>	<i>2,488</i>	<i>1</i>	<i>\$1.75</i>
<i>University</i>	<i>7,950</i>	<i>1</i>	<i>\$1.75</i>
<i>Resort</i>	<i>1,001</i>	<i>4</i>	<i>\$7.00</i>

➤ *How should we define the # connections for non-conventional CWSs to ensure an equitable assessment of fees?*



# Comparison of Two Options

<i>Pop</i>	<i>#Connections</i>	<i>Option #1 Pop-based Fee</i>	<i>Option #2 Connection-based Fee</i>
25	9	\$300	\$15.75
125	46	\$500	\$80.50
750	278	\$2,000	\$486.50
3,300	1,222	\$2,000	\$2,138.50
10,000	3,704	\$10,000	\$6,482.00
50,000	18,518	\$25,000	\$32,406.50
100,000	37,037	\$50,000	\$64,814.75
120,000	45,052	\$60,000	\$78,841.00
160,000	59,259	\$60,000	\$103,703.25
250,000	92,592	\$60,000	\$162,036.00
660,000	244,444	\$60,000	\$427,777.00
820,000	303,704	\$60,000	\$531,482.00
1,600,000	592,593	\$60,000	\$1,037,037.75

Other questions/comments?