

# Alternative Rate Structure Analysis

## STAKEHOLDER MEETING NO. 1 – WATER QUANTITY CHARGES

### Summary Meeting Notes

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**Date:** July 30, 2019

**Time:** 2:45 PM – 4:45 PM

**Location:** Philadelphia Water Department Offices, 1101 Market Street, McCarty Conference Room

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#### Agenda

- ✓ Welcome and Overview
  - ✓ Focus Topic No. 1 – Water Quantity Charges
  - ✓ Analyzing Alternatives & Discussion
  - ✓ Next Steps
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#### Attendees

##### Participants:

Adeolu Bakare, Philadelphia Large Users Group  
Robert Ballenger, Community Legal Services  
Fran Lawn, Sustainable Business Network  
Eliza Alford, Sustainable Business Network  
Cornelius Brown, Philadelphia Building Industry Association / Bohler Engineering  
Libby Peters, City of Philadelphia Department of Commerce

##### PWD Staff:

Randy Hayman, Melissa La Buda, Sarah Stevenson, Scott Schwarz, Ji Jun, Jaclyn Rogers, Joanne Dahme

##### Consultant Team:

Ann Bui, David Jagt, Brian Merritt, Danae Mobley, Kash Srinivasan, Jennifer Hurley

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*The following is a summary of the first Alternative Rate Structure Stakeholder Group meeting. The presentation utilized during the meeting is available on the Philadelphia Water, Sewer and Stormwater Rate Board website: <https://www.phila.gov/departments/water-sewer-storm-water-rate-board/>*

*Attendees are listed above, and Appendix A includes a list of all invitees. Appendix B provides supplemental responses to questions raised during the meeting.*

### Welcome and Overview

The Black & Veatch Team (Team) welcomed the Alternative Rate Structure Stakeholder Group (ARSG) on behalf of the Philadelphia Water Department (PWD or the Department) and emphasized the importance of the groups feedback and input as PWD considers potential incremental rate structure adjustments prior to the next rate filing with the Philadelphia Water, Sewer and Stormwater Rate Board (the Rate Board). The Team noted that the Rate Board, as part of their decision from the prior rate determination, requested that PWD begin a process of reviewing their rate structure.

### Purpose of the Alternative Rate Structure Analysis

The Team reviewed that the purpose of the Alternative Rate Structure is to assess whether or not the current rate structure still supports the Department's current mission and goals and whether or not it will continue to help meet future objectives.

### The Objective of Alternative Rate Structure Meetings

The Team then explained that the objective of the proposed Alternative Rate Structure Analysis is to evaluate potential incremental rate structure updates in critical areas which present both near-term and long-term challenges for the Department and its customers. The meetings will focus on the following key areas:

- Water quantity charges
- Stormwater credits and incentives
- A rider for pension-related expenses

The Team further noted that while these meetings will focus on these three specific areas, this is the beginning of a longer-term process which will take 24-36 months to complete.

### Intended Meeting Outcomes

The meetings are intended to gather input and feedback on:

1. Perceived impacts of potential rate structure changes
2. General feedback and opinions (both pros and cons) on any potential changes and associated transition
3. Potential impediments to implementation

The feedback from Stakeholders will help inform the Department's decision to include any of the potential rate structure changes with their next filing to the Rate Board, currently anticipated in early 2020. The Team noted that not all of the potential alternatives discussed with the ARSG may be carried forward to the filing and that the Rate Board would have final approval of any proposed changes.

### Meeting Schedule

The Team advised the participants that meetings are on the following dates/times:

1. **Tuesday, July 30th** from 2:30 - 4:30 PM: Water quantity charges
2. **Tuesday, August 13th** from 2:30 - 4:30 PM: Stormwater credits and incentives
3. **Thursday, September 5th** from 2:30 - 4:30 PM: Rider for pension-related expenses

### Stakeholder Feedback

The Team explained that Stakeholders are requested to provide written feedback by September 16<sup>th</sup> and that Stakeholders may submit comments on a rolling basis or all at once. Stakeholders are welcome to submit additional comments on areas not discussed during the meetings.

Based upon both the formal written feedback and the informal discussions during the Stakeholder Meetings, the Team will develop a summary report for submittal to the Rate Board. The Department will provide all Stakeholders with an opportunity to review the draft report and provide comments before finalization. The Department will post all meeting materials, including meeting overview, presentation, and stakeholder comments, to the Rate Board website.

### Role of the Facilitators

Kash Srinivasan and Jen Hurley explained their roles as facilitators during these series of meetings and reviewed the meeting objectives, namely:

- Understand what different stakeholders see as the pros and cons of the alternative rate structure proposals
- Develop a statement of areas of stakeholder agreement and disagreement
- Respect participants' time: Collect feedback in an efficient way
- Value participants' perspectives: Collect feedback in a way that we hear all of the different points of view

The facilitators established a series of ground rules and requested that all attendees adhere to them.

### Focus Topic No. 1 – Water Quantity Charges

The Black & Veatch Team then provided a presentation explaining the Department's current water quantity charge, reasons for re-evaluation, alternative rate structures, industry trends, a potential uniform block rate structure and associated customers impacts as well as its applicability to Philadelphia.

The following section summarizes key points for the presentation. For a copy of the complete presentation, please refer to the Rate Board website.

### Water Rate Structures

The Team reviewed that most water rate structures are composed of two components:

1. Service Charge: This represents a fixed fee per billing period regardless of consumption. The fee can be the same regardless of meter size or can increase based on the meter connection size.
2. Consumption (or Commodity/Volumetric/Quantity) Charge: This represents a variable fee per billing period based on water consumption, i.e., a price per unit of water.

In accordance with the Department's Rates and Charges, the Department refers to the consumption charge as the Water Quantity Charge and expresses the charge as dollars per thousand cubic feet of water usage (\$/MCF).

Potential quantity charge options include uniform, declining block, inclining block, and seasonal rates. When designing quantity charges, additional considerations such as the sizing and pricing of blocks, as well as specifying blocks by customer class or meter size, may be included.

### PWD's Existing Rate Structure

The existing water quantity charge is a declining block rate structure. This type of structure was originally intended to reflect the way the Department incurs costs, the influence of peak demand on system design and capacity as well as economies scale. For the majority of residential customers, the existing rate structure is essentially uniform as 98% of residential bills fall within the first of the four blocks (see Figure 1).

PWD first adopted a declining block rate structure nearly 40 years ago. While periodic re-evaluation of rate structures is a recognized best practice, beyond that the Department is reviewing whether the declining block rate structure still supports PWD's mission and goals and if it will continue to do so, as the Department attempts to address:

- An increased focus on water resources and sustainability;
- Declining consumption;
- Advancements in and changes to water supply management approaches; as well as
- Affordability.

The Team then provided an overview of the pros and cons associated with declining block rate structures, noting that while reflecting system use and economies of scale, it may be hard for some customers to understand why rates decrease with consumption. Further, a declining block rate structure does not necessarily encourage conservation and may create a challenge for some customers with respect to affordability.

### Potential Alternatives

The Team explained the three primary alternatives to the current rate structure were a uniform rate (i.e., constant fee per unit), an inclining block rate (often considered a conservation rate structure with rates increasing with higher usage) and seasonal rates (which vary to reflect increased costs incurred during peak-demand season).

The Team noted that:

- Moving to an inclining block rate structure would represent a significant shift from the Department's current declining block rate structure and didn't meet the criteria of an incremental change;
- Philadelphia doesn't experience a seasonal variation in water usage that would necessitate the use of seasonal rates; and
- Based on the above, a uniform rate was the most likely alternative for PWD.

**Figure 1 – Current Water Quantity Charges**

TIER	DESCRIPTION	RATE (\$/MCF)
1	First 2 MCF	\$44.85
2	Next 98 MCF	\$38.54
3	Next 1,900 MCF	\$29.87
4	Over 2,000 MCF	\$29.05

Note: Rates exclude TAP-R surcharges.

### Industry Trends and Benchmarking

Based on Black & Veatch's 2019 50 Largest Cities Water and Wastewater Rate Survey, the use of declining block has decreased between 2001 and 2018. While declining block structures are still in use in areas with abundant water supply, inclining block and uniform rates have become more prevalent. With respect to PWD's peer utilities, Baltimore, Columbus, Indianapolis, and Detroit have shifted away from declining block rate structures; reasons cited for the shift include water conservation, increased efficiency within customer classes and affordability concerns.

### Uniform Block Alternative

The Black & Veatch Team presented a potential uniform block alternative based upon the FY 2019 Cost of Service reflected in the 2018 Rate Determination (see Figure No. 2). *The Team noted that all discussions about potential bill impacts resulting from a Uniform Block alternative are illustrative and provided for discussion purposes only.*

Figure 2 – Uniform Block Alternative

DESCRIPTION	RATE (\$/MCF)
All Usage	\$40.50

Note: Rates exclude TAP-R surcharges.

The Team provided an overview of the pros and cons associated with uniform block rate structures, noting that overall, it is a simpler rate both to design and for the customer to understand. The uniform rate structure also provides some conservation signaling compared to the current inclining block rate structure and may help to address some affordability concerns. However, a uniform block rate doesn't reflect unique customer characteristics nor the incremental cost of additional consumption.

The Team then reviewed the potential customer impacts of the shift from the current declining block rate structure to a uniform block:

- Typical residential, senior citizens and small commercial customers (as identified under the 2018 Rate Determination) would see a 3.3 to 2.4 percent decrease in their total monthly bills.
  - This reflects a 9.7 percent decrease in the quantity charges associated with these customers.
- Customers with large water usage would see an increase with respect to their quantity charges.
  - For example, quantity charges would increase by 4.4 percent for a customer using 50 MCF of water; and 37.2% for a customer using 5,300 MCF of water.
  - The total bill impacts would depend on the customer's specific attributes, including meter size and parcel characteristics.
- Overall, with respect to the quantity charge portion of customer bills:
  - 85 percent of bills would experience a decrease;
  - 14 percent of bills would experience no change; and
  - 1 percent of bills would experience an increase.
- Of the 1 percent of bills that would experience an increase:
  - This represents roughly 69,000 of the over 6 million bills issued annually and is still a significant number of bills;
  - Targeted outreach to these customers would be necessary if such a change were to be adopted.

- Any customer using more than 6.5 MCF in a given month would see a bill increase;
- Increases may range from 0.01 percent to 38.7 percent, depending on the customer's usage;

Further, with this change in the rate structure, over 50 percent of PWD's quantity charge billings would be associated with just 1 percent of customer bills. *In other words, these bills represent over half of the Department's anticipated revenue from water quantity charges annually.*

#### Uniform Block Applicability to PWD

The Team summarized the applicability of a uniform block rate to PWD and noted that it would provide: some price signaling to customers (compared to the declining block rate structure) as well as reasonable revenue stability. In addition, a uniform block rate would be relatively simple to implement, and residential and small business customers may experience some affordability benefits. Finally, a uniform block rate may serve as a transition mechanism (i.e., interim incremental rate structure) should the Department ultimately desire to move toward another rate structure such as inclining block or a hybrid approach.

#### Questions Posed During the Presentation

The following is a summary of questions posed during the presentation

**Question:** Is the evaluation of this alternative limited to water quantity charges, or does it include water and sewer?

**Response:** Yes – this alternative is only with respect to water quantity charges. The existing sewer rates are based upon a uniform block structure.

**Question:** How do customers respond in cases where there are different rate structures for commercial and residential? (With respect to the change in rate structures between 2001 and 2018 as noted on Slide 19 entitled "Benchmarking - Industry Perspective").

**Response:** Customer response can vary significantly. Outreach and education are always key in communicating changes in rate structure – especially when the rate structure recognizes different types of customers.

**Question:** With respect to Slide 20 entitled "Comparable Utilities" and the noted rate structures - does commercial represent all non-residential?

**Response:** Yes – commercial represents non-residential quantity charge structures for these utilities.

**Question:** Is there any research done on the impacts on small vs. large businesses [as a result of implementing a change from a declining block rate structure to a uniform or inclining block rate structure]?

**Response:** Education is always done during the implementation of a rate structure change, but there is no clear trend across cities. The initial benchmarking effort was performed to identify utilities that have implemented a rate structure change and noted those utilities which have moved away from a declining block rate structure. Additional investigation would be necessary to determine the customer impacts experienced by these utilities.

**Question:** Could we make an apples-to-apples comparison of quantity charges for residential to large customers (i.e., similar to Slide 24, which shows the change in quantity charges)?

**Response:** Yes – a similar figure could be provided. For the typical residential customer, the decrease in quantity charges is approximately 9.7 percent. This is because their consumption falls within the first rate block under the current structure. Under the example analysis, their rate decreases from \$44.85/MCF to \$40.50/MCF (or 9.7 percent). [See supplemental response in Appendix B: Figure B-3.](#)

**Question:** Is it correct to say that 50 percent of the quantity charges are impacted in this analysis?

**Response:** Yes. Under the example uniform rate structure, bills with water usage of 6.5 Mcf or more will experience an increase in the quantity charge. Based upon the water bills issued during FY 2018, 1 percent of the Department's bills are within this level of usage. Under the current rate structure, these same bills account for approximately 45 percent of quantity charges. If a uniform block structure were adopted, these bills would represent 50 percent of PWD's quantity charges annually. [See supplemental response in Appendix B: Figure B-7.](#)

## Analyzing Alternatives

The facilitators led the meeting attendees through a series of activities to identify pros, cons, and questions regarding the potential Uniform Block Rate structure alternative. The following is a summary of the activity and the subsequent discussion. Appendix B includes supplemental information in response to questions.

### Group Questions

- With the uniform block rate approach, is PWD hoping to increase revenue, maintain revenue, or decrease consumption?
  - A shift to a uniform block rate would be revenue-neutral. PWD is not looking to increase revenue nor decrease consumption. Declining consumption is an issue that most utilities are facing, including PWD. At the moment, there is no outside need to encourage further decreases in consumption. Water supply is not an issue at this time; however, resource management and protection are part of PWD's mission.
- If rates increase for multi-family properties, how might this impact rent?
  - If bills for multi-family properties increase, it is hard to say how this would impact rents. It will depend on whether or not the tenant's rent includes the water bill or if it is the responsibility of the tenant.
  - It is possible for a property to have multiple or individual meters and for a tenant to receive a bill.
  - If the lease agreement includes water bills as part of the overall rent, the landlord may decide to adjust rent at the time of renewal. However, these are individual business decisions, and it is difficult to speculate on what might happen. It's reasonable to expect that any business would make efforts to cover their costs where and when they can do so.
- Which type of businesses would be most impacted (by the transition to a uniform block rate structure from the current declining block rate structure)?

- Generally, any customer that uses more than 6.5 MCF per month would see an increase in their quantity charges. The most impacted customers would be large commercial, industrial, and institutional water users. The Department's Official Statement related to bond offerings also provides a listing of the City's Top 10 Customers. **See supplemental response in Appendix B: Figure B-8.**
- There was some discussion on impacts to other types of businesses. Members of the ARSG acknowledged that some businesses such as restaurants, dry cleaners, and convenience stores might have difficulty absorbing significant increases in their costs as they typically operate on tight margins.
  - There are no "typical" characteristics for these types of customers, and PWD does not have specific customer types for restaurants, dry cleaners, etc. in the billing system currently.
- Will questions be posted on the website?
  - Yes – in summary form.
- Are there any thoughts about mitigating costs to customers facing the highest increases?
  - The uniform block rate alternative was only a preliminary analysis. The Department has not discussed any mitigation approaches yet, but will certainly consider options to manage customer impacts as part of any change in rate structures.
- Would there be a fair plan for phasing-in (the change in quantity charge rate structure)? Are there examples? Any industry standard?
  - Phasing-In could be an option.
  - There is a precedent for phasing in rate structure changes. For example, PWD phased-in the switch from meter-based to parcel area-based stormwater fees over 4 years for non-residential customers.
  - Any proposal would be subject to the Rate Board's approval.
  - At the Water Industry level, phasing-in approaches are a common method of introducing rate structure changes. The period is usually over 3-5 years and typically aligns with the rate study and approval process schedule for the individual utility.
- Can the Department provide the history of block rates over time?
  - The Department has updated the block rate structure periodically over the past 40 years. While rates have changed, block sizing has changed as well.
  - **See supplemental response in Appendix B: Figure B-9.**
- What's the rationale to apply the inclining block rate structure for large users with little ability to conserve?
  - PWD is not considering an inclining block rate at this time. Generally, the transition to an inclining block rate doesn't align with PWD's desire to make incremental changes.
  - In areas of water scarcity, an inclining block structure might help incent conservation and process improvements for large users.
- Would the Department consider all options, such as a split structure?
  - First, the City's existing billing system has many limitations and in particular, concerning customer types. Prior to implementing any rates by customer type, the Department would need to address these limitations and verify all customer types.



- With respect to block rate structures, there are hybrid variations that might work, such as an inclining and declining hybrid rate structure.
- Does the billing system does not allow for customer classifications?
  - The billing system does contain some information regarding customer types such as residential and non-residential customer (based upon premise types and/or meter size) as well as designations for discount types including senior, Philadelphia Housing Authority (PHA), educational, medical and charities.
  - The level of granularity may need to be expanded, and customer designations would need to be both refined and affirmed to establish rates by customer class. This would take a tremendous effort and time to complete. While it is something the Department is looking into, it may not be available for several years and certainly not in time for the next filing with the Rate Board.

### Pros and Cons Discussion

The ARSG identified the following pros and cons associated with a potential shift to a uniform block rate structure.

PROS	CONS
<ul style="list-style-type: none"> <li>● The uniform block rate structure is simple, easy to understand; it would be easy to explain to customers.</li> <li>● It would create the potential to encourage some level of conservation (if desired).</li> <li>● A uniform block rate would be simple to administer (with respect to operations such as billing).</li> <li>● The majority of residential customers would see a decrease in the water quantity charges on their bills.</li> <li>● It also offers a potential decrease in the water quantity charge portion of the bills for some businesses.</li> <li>● Revenue neutral for the entire system.</li> <li>● A uniform block rate structure for quantity charges is more in line with national trends/other cities.</li> </ul>	<ul style="list-style-type: none"> <li>● The shift to a uniform block rate structure has the potential to increase bills for certain customers, such as restaurants, dry cleaners, and small manufacturing. These customers operate on thin margins, may not be able to control usage and may have trouble absorbing the potential bill increase.</li> <li>● Messaging is tough for businesses. There is tremendous diversity in consumption. If this is simply a change in allocation rather than behavior, this approach may seem arbitrary. In other words, this may appear that costs are merely being shifted between different customer types, even though customers may not be doing anything differently.</li> <li>● There are likely to be winners and losers within each customer type (i.e., non-residential)</li> <li>● May have a negative impact on business development within the City.</li> </ul>

### Concluding Questions

The following questions were posed following the discussion:

- Are there some residential users that use more than 2 MCF?

- Yes, there are some residential customers that use more than 2 MCF monthly.
- Is the uniform fee intended to increase revenues?
  - The uniform fee is intended to be revenue-neutral on a system-wide basis.
- Will there be individual attribution on the meeting notes?
  - No – summary meeting notes will not be attributed to individuals. However, written comments submitted by participants will be.

### Next Steps

The Team noted that summary meetings notes, along with responses to questions posed during the meetings would be provided. The notes, along with meeting materials, will be posted to the Rate Board website.

The meeting concluded with a thank you to the group for attending and participating in the dialogue. The ARSG was reminded of the next two meetings scheduled for August 13<sup>th</sup> and September 5<sup>th</sup> and the written comment deadline of September 16<sup>th</sup>.

In addition, participants were asked to complete an evaluation form to help aid in improving the facilitated portion of future meetings.

**Appendix A – Meeting Invitees**

<b>Organization</b>	<b>Contact Name</b>
Department of Commerce	Libby Peters
Friends of Wissahickon	Maura McCarthy
Managing Directors Office	Liz Lankenau
National Resources Defense Council	Larry Levine
PECO/Exelon	Anthony Holtzman Alfred Ryan Daniel P. Delaney (K&L Gates)
PennEnvironment	Stephanie Wein, Clean Water Advocate David Masur, Executive Director
PennFuture	Alice Baker, Staff Attorney
Pennsylvania Horticultural Society	Glen Abrams
Philadelphia Building Industry Association	Cornelius Brown
Philadelphia Land Bank	Steve Cusano (Senior Counsel, City of Philadelphia)
Philadelphia Large Users Group (PLUG)	Alessandra Hylander
PIDC	Tom Dalfo
Public Advocate	Robert Ballenger / Community Legal Services
Rate Board Consultant (Amawalk)	Ed Markus
Sustainable Business Network	Anna Shipp

## **Appendix B – Supplemental Information**

### Impact Analysis – Estimated Customer Impacts

The following tables were presented during the Alternative Rate Structure Meeting on Slides 23 and 24, respectively.

**Figure B-1 (Slide 23): Impact Analysis - FY 2019 Typical Bills (All Charges)**

CUSTOMER TYPE	TYPICAL BILL		% CHANGE
	DECLINING	UNIFORM	
Residential <sup>[1]</sup>	\$66.33	\$64.16	-3.3%
Senior Citizen <sup>[2]</sup>	\$38.16	\$37.18	-2.6%
Small Business <sup>[3]</sup>	\$111.01	\$108.40	-2.4%

<sup>[1]</sup> 5/8" meter with 500 cubic feet water usage.

<sup>[2]</sup> 5/8" meter with 300 cubic feet water usage.

<sup>[3]</sup> 5/8" meter with 600 cubic feet water usage. A parcel with gross area of 5,500 square feet and impervious area of 4,000 square feet.

**Figure B-2 (Slide 24): Impact Analysis FY 2019 – Example Large Quantity User Charges**

BILLED VOLUME	QUANTITY CHARGES		% CHANGE
	DECLINING	UNIFORM	
50 MCF	\$1,940	\$2,025	4.4%
150 MCF	\$5,360	\$6,074	13.3%
5,300 MCF	\$156,487	\$214,640	37.2%

Attendees requested a similar figure be provided to illustrate the impact on quantity charges for the typical customers. The requested figure is provided below.



**Figure B-3: FY 2019 – Example Large Quantity User Charges**

CUSTOMER TYPE	AVERAGE BILLED VOLUME	QUANTITY CHARGES		% CHANGE
		DECLINING	UNIFORM	
Residential	0.5 MCF	\$22.43	\$20.25	(9.7%)
Senior Citizen	0.3 MCF	\$10.09	\$9.11	(9.7%)
Small Business	0.6 MCF	\$26.91	\$24.30	(9.7%)

### Impact Analysis – Quantity Charges

During the meeting, the group discussed the implications of shifting to a uniform block rate structure. The following table was presented on Slide 25 with respect to the distribution of bill impacts.

**Figure B-5 (Slide 25): Impact Analysis – Quantity Charge Impact – Distribution of Bills**

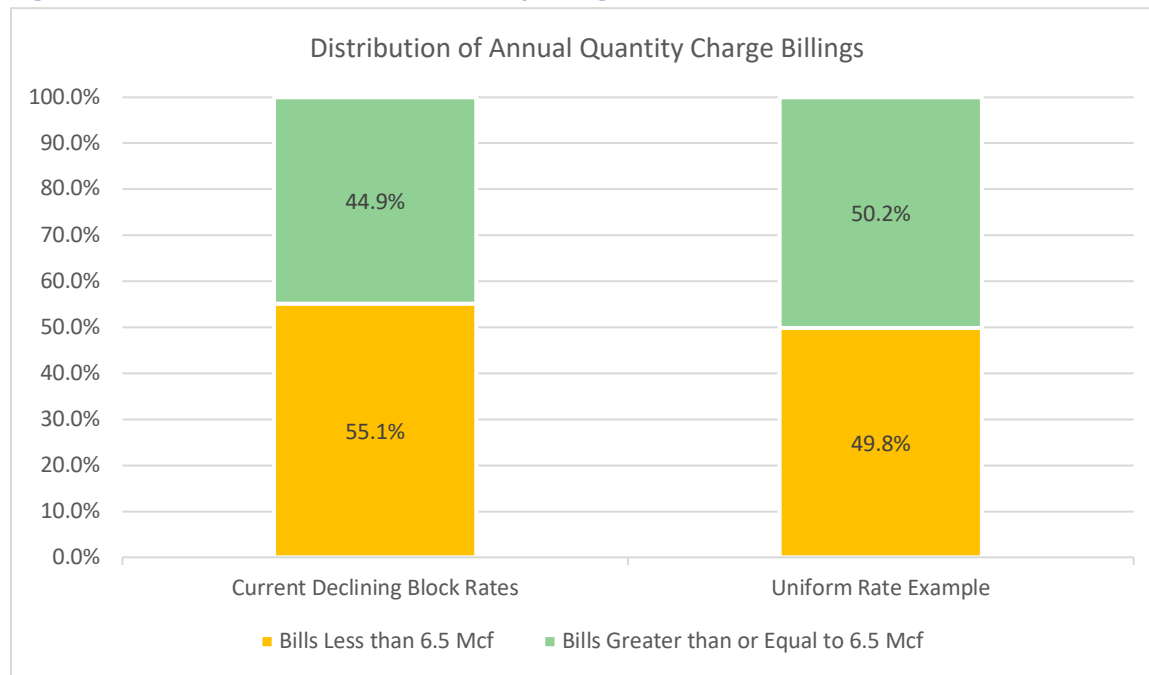
IMPACT	RESIDENTIAL	NON-RESIDENTIAL	TOTAL
	86%	72%	85%
NO CHANGE	13%	19%	14%
	<1%	9%	1%

Of the bills that would experience an increase (as present in the figure from Slide 26 provided below), the impact to the quantity charges could range from 0.01 to 38.7 percent depending on the total billed volume (see Column 1). The associated billed volume is presented in Column 2 with the associated percent of total bills these bills represent are presented in Column 3. Finally, the percent of annual quantity charges these bills represent is provided in Column 4.

**Figure B-6 (Slide 26): Impact Analysis –Quantity Charge Impact - Breakdown of Bill Increase**

Quantity Charge Impact (1)	Billed Volume (Mcf) (2)	Percent of Total Bills (%) (3)	Percent of Quantity Charges (%) (4)
0.01% - 2.50%	6.5 - 13.0	0.5%	4.0%
2.51% - 5.00%	13.1 – 101.1	0.5%	16.6%
5.01% - 10.00%	101.2 – 126.6	< 0.1%	3.5%
10.01% - 20.00%	126.7 - 226.7	0.1%	12.9%
20.01% - 30.00%	226.8 – 685.7	< 0.1%	6.2%
30.01% - 38.70%	687.8 – 16,768.2	< 0.1%	7.0%
<b>TOTAL</b>		<b>1.1%</b>	<b>50.2%</b>

During the meeting, the Team highlighted that with the shift in rate structure, while 1-percent of bills would see an increase, these bills would represent 50 percent of PWD's quantity charges annually as compared to the 45 percent of annual charges they represent under the current declining block rate structure. Figure B-7 provides an alternative presentation of those potential impacts that would results from a shift in water quantity rate structure.

**Figure B-7: Distribution of Annual Quantity Charge Bills****Impacted Customers - PWD Top 10 Customers**

During the meeting, several participants inquired as to which businesses would be most impacted by the transition from the current declining block rate structure to a uniform rate structure. The Team noted that larger users including commercial, institutional (including educational and medical), and industrial would likely be those most impacted by the change.

The following list of customers is an excerpt from the Department's latest Preliminary Official Statement issued in conjunction with the proposed Series 2019B Water and Wastewater Revenue Bonds. The majority of these customers would likely see an increase in the quantity charge portion of their bills.

*Note – the list is based upon total customer revenues including water, sewer and stormwater services.*

**Figure B-8: Top 10 Customers Fiscal Year Ending June 30, 2018**

- |                                    |   |
|------------------------------------|---|
| 1. City of Philadelphia            | 6. SEPTA                                    |
| 2. Philadelphia Housing Authority  | 7. AdvanSix Inc.                            |
| 3. School District of Philadelphia | 8. Temple University                        |
| 4. Veolia Energy of Philadelphia   | 9. University of Pennsylvania Health System |
| 5. University of Pennsylvania      | 10. Federal Government                      |

*Source: Preliminary Official Statement - Series 2019B Water and Wastewater Revenue Bonds dated July 29, 2019.*

### History of Block Rates

During the meeting, the participants requested that the Department provide the history of block rates over time. Based on readily available data, we note the following:

- The Department has had a declining block rate structure with four rate blocks dating back to at least 1979.
- While there have been adjustments to the rate blocks to reflect the change to billing frequency, as demonstrated by the following table the ranges of the rate blocks have reasonably maintained a similar structure throughout this period.

**Figure B-9: History of Block Rates**

	1979	1979	Current
Billing Frequency	Quarterly	Equivalent Monthly	Monthly
1 <sup>st</sup> Rate Block Usage Range	0 – 3 Mcf	0 – 1 Mcf	0 – 2 Mcf
2 <sup>nd</sup> Rate Block Usage Range	3 – 250 Mcf	1 – 83.3 Mcf	2 – 100 Mcf
3 <sup>rd</sup> Rate Block Usage Range	250 – 6,000	83.3 – 2,000	100 – 2,000
4 <sup>th</sup> Rate Block Usage Range	Over 6,000 Mcf	Over 2,000 Mcf	Over 2,000 Mcf