Witness: Melissa Schwarzell and Roderick Sherman

1. Provide the total number of monthly bills KAW estimated as a result of the meter problem(s) which are the subject of this investigation. If the exact number is not known, provide the best estimate. The total should be based on the number of actual bills, not the number of customers affected.

Response:

Please see the Company's response to PSC 1-2, Attachment 2 for total estimated bills. Please also see the Company's response to PSC 1-3 for the causes of estimated meter reads, including various "skip codes." Detailed descriptions of the skip codes, including indication of skip codes KAW would consider to be beyond its control, can be found in KAW's response to PSC 2-7(a).

Witness: Melissa Schwarzell, Roderick Sherman, and Andy Lewis

2. For each automatic meter read ("AMR") meter that experienced more than one estimated bill, explain for how many additional consecutive months the usage level for each such meter continued to be estimated.

Response:

Please see the "AG1-2 Pivot" tab of "KAW_R_AGDR1_NUM002_021023 ATTACHMENT_1", which counts consecutive months of estimated bills by premise. Please note that more than 99.9% of Kentucky American's meters are AMR, so it is reasonable to presume that almost all records in the attachment would be associated with AMR meters.

Witness: Melissa Schwarzell and Roderick Sherman

3. For each estimated AMR meter read from January 1, 2018 to date, provide the reason an estimation was made, as mandated in 807 KAR 5:006 § 7(5)(d).

Response:

Please see the Company's response to PSC 1-3. Additionally, please see Attachments 1-3 to this data response, which are updated through January 2023. Additionally, please note that more than 99.9% of Kentucky American's meters are AMR, so it's reasonable to presume that virtually all of these responses would apply to AMR meter reads.

Witness: Andy Lewis

4. Provide the total number of KAW radio receivers ("radio read devices") the Company replaced or repaired as a result of the problems which are the subject of this investigation.

Response:

Radio read devices are replaced in the normal course of business and repaired when appropriate and necessary. Kentucky American Water does not track when a repair or replacement would be "as a result of the problems" addressed herein, but the purchases are as follows:

- 2018 Purchased 10 Neptune belt clip receivers Purchased 1 Neptune truck mounted receiver Purchased 3 Mueller truck mounted receivers
- 2019 Purchased 8 Neptune handheld receivers Purchased 20 Mueller handheld receivers Purchased 9 Mueller truck mounted receivers Purchased 9 Neptune truck mounted receivers
- 2021 Purchased 4 Neptune truck mounted receivers Purchased 2 Mueller truck mounted receivers
- 2022 Returned 4 Mueller truck mounted receivers for repair Returned 4 Neptune truck mounted receivers for repair Purchased 3 Neptune truck mounted receivers

Witness: Andy Lewis

- 5. Explain what sort of damage the radio read devices were susceptible to.
 - a. Explain whether any damaged radio read devices were covered under manufacturer warranty, and if so, whether the warranty provided any coverage for the type of damage the devices incurred.
 - b. Explain whether KAW required customers to pay for any damages to the radio read devices. If so, provide the total number of customers so charged, and provide the average sum each customer was charged.

Response:

The Company notes that the Attorney General defined "radio read devices" to mean "receivers" in AG 1-4, but Kentucky American Water is answering this request more broadly to include other metering equipment. Damage examples may include environmental, intentional and unintentional physical damage, etc.

- a. Different manufacturers and models have different warranties that cover manufacturing defects and include prorated credits for replacement metering equipment. "Damage" rather than "defects" are generally excluded from warranty coverage, and historically, KAW has made a few warranty claims for metering equipment and received like kind meters or credits on future purchases with little to no financial impact on KAW or customers.
- b. Any damages to radio read devices, MIU devices, or AMR meters fall under the below from the Kentucky-American Water Company Tariff, P.S.C. KY No. 9, First Sheet No. 12, 6.1(b):

All Meters, except detector devices and/or fire service line Meters, will be installed, maintained and replaced by; and at the expense of the Company, but in case of damage to such Meters by reason of any act, neglect or omission on the part of the Customer (such as damages occasioned by accident or misuse or purposeful actions) the Customer shall pay to the Company the cost of its repair on presentation of bill therefore.

KAW has not presented a bill to any customers to pay for any damages to metering equipment, including radio read devices, MIU devices, and AMR meters, under the above-referenced Tariff language.

Witness: Andy Lewis and Melissa Schwarzell

6. Provide the total number of Meter Interface Units ("MIU"), which transmit usage information to KAW radio receivers, the Company had to repair or replace as a result of the problems which are the subject of this investigation.

Response:

Please see the table below, which shows unscheduled meter replacements (presumed to be replacements more than 2 years earlier than scheduled replacement or calibration year) from January 1, 2018, through January 31, 2023. Unscheduled meter replacements are a good proxy for MIU replacements and are an indicator of the types of meter reading challenges of concern in this investigation.

Unscheduled / Early Meter Replacement

	2018	2019	2020	2021	2022	2023	Total
7,	213	5,484	5,073	4,156	4,914	748	27,588

Witness: Andy Lewis

- 7. Explain what sort of damage the MIU devices were susceptible to.
 - a. Explain whether any damaged MIU devices were covered under manufacturer warranty, and if so, whether the warranty provided any coverage for the type of damage the devices incurred.
 - b. Explain whether KAW required customers to pay for any damages to the MIU devices. If so, provide the total number of customers so charged, and provide the average sum each customer was charged.
 - c. Explain whether the MIU is integrated into the AMR meter itself, or is a separate component attached to the AMR meter. If separate, explain whether the MIU is powered via battery, and provide the depreciable lifespan of the battery.

Response:

Please see Kentucky American Water's response to AG 1-5.

- a. Please see KAW's response to AG 1-5(a).
- b. Please see KAW's response to AG 1-5(b).
- c. The MIU is separate from the meter and powered via battery. The depreciable lifespan of the battery is 20 years covered by warranty (first 10 years full and next 10 years prorated).

Witness: Andy Lewis

- 8. Provide the total number of AMR meters replaced from January 1, 2018 to date.
 - a. Explain whether any damaged AMR meters were covered under manufacturer warranty, and if so, whether the warranty provided any coverage for the type of damage the meters incurred.
 - b. Explain whether KAW required customers to pay for any damages to the damaged AMR meters. If so, provide the total number of customers so charged, and provide the average sum each customer was charged.

Response:

The total number of meters removed (and presumably therefore replaced) from January 1, 2018 to date are shown below. Currently more than 99.9% of the Company's meters are AMR meters, so nearly all of these could be presumed to be AMR.

_	2018	2019	2020	2021	2022	2023 G	rand Total
Meters Removed	15,387	9,994	6,479	5,614	5,743	786	44,003

For subparts a and b, please see Kentucky American Water's response to AG 1-5.

a. Please see KAW's response to AG 1-5(a).

b. Please see KAW's response to AG 1-5(b).

Witness: Andy Lewis

9. Provide the total number of meters that were serviced from January 1, 2018 to date. Provide also a breakdown of the issues addressed in servicing the meters.

Response:

Please see Kentucky American Water's response to AG 1-6 and AG 1-8 for the number of meters removed. Please also see the Attachment to PSC 2-12 for service orders worked related to consecutive estimates.

Witness: Andy Lewis

10. Explain whether any of KAW's meter reading equipment was ever found to be faulty or damaged in some way. If so: (i) explain whether any of that equipment was under a warranty, and (ii) if "yes" to subpart (i), explain whether the warranty provided any coverage for the type of faulty or damaged equipment parts.

Response:

Please see Kentucky American Water's responses to AG 1-4, AG 1-5, and AG 1-20.

Witness: Roderick Sherman, and Andy Lewis

- 11. Confirm the following regarding KAW's Tariff Sheet 13, 6.1(j):
 - a. The Company is required to collect usage information of each customer and compare the usage to the historical usage of that customer; and
 - b. If it appears there is an unusual deviation, the Company is required to notify the customer to determine the source or cause for the unusual usage.

Response:

Please see <u>https://www.amwater.com/kyaw/resources/PDF/KAW_Water_rules_regs_rates.pdf</u> for a copy of the current PSC approved Kentucky American Water Rates, Charges, Rules, and Regulations, which provides:

(j) Monitoring of Customer usage shall be in compliance with the then-applicable Rules and Regulations. The Company monitors Customer usage on a monthly basis through its collection of usage information. Upon the collection of that information, the Company compares usage for a particular month with a Customer's historical usage. To the extent the current month's usage show an unusual deviation from historical usage, the Company will notify the Customer and take steps to determine the reason for the unusual deviation.

Witness: Roderick Sherman and Andy Lewis

- 12. Beginning in January 1, 2018, explain how KAW assessed and determined the level of its customers' usage.
 - a. Explain also whether the actions KAW employs to assess and determine customer usage levels have changed since January 1, 2018. If so, provide a detailed discussion regarding how they have changed.

Response:

Kentucky American Water determines customer usage through its meter reading process. For a detailed answer as to how usage is determined when an actual meter read is not possible, please see Kentucky American Water's response to PSC 2-2.

Witness: Roderick Sherman and Andy Lewis

- 13. Explain why, if KAW was reviewing usage for unusual deviation, action was not immediately taken to address consecutive usage estimation.
 - a. Include in your response a discussion regarding whether the actions KAW employs to address consecutive usage estimation have changed since January 1, 2018. If so, provide a detailed discussion regarding how they have changed.

Response:

KAW has taken action "to address consecutive usage estimation." Estimates are based on historical information as described in the response to PSC 2-2. In most instances, estimates align with the actual read that is captured after the Company's field operations team captures a read. In cases where the actual read produces an unusual deviation we will follow the steps as described in the response to PSC 2-1(b). If investigation does determine the actual usage is unusually high, the Company offers customer payment plans and other options such as referring them to KAW's Help to Others ("H20") program. For a description of all actions the Company has and is taking to address consecutive estimates, see the Company's response to PSC 1-6.

In addition to and since KAW's response to PSC 1-6, the Company has implemented the following additional actions to improve and accelerate resolution of existing consecutive estimates:

- 1. In most cases, resolution of the consecutive estimates requires replacement of the meter. Due to supply chain limitations, limited numbers of meters were available for purchase/delivery during Q4 2022. This limited KAW's ability to replace a material number of meters during the Q4 2022 timeframe. The Company did receive 2,000 meters in mid-December 2022. Since mid-December 2022, approximately 1,500 meters have been replaced to address consecutive estimates, meters with unresolved errors, or at risk of a 3-month consecutive estimate. KAW has pre-ordered additional meter inventory to ensure meter availability will satisfy planned replacements and consecutive estimate reduction goals.
- 2. KAW has added contract meter replacement activities associated with resolving the consecutive estimate backlog via two meter replacement contractors.
- 3. The revised meter reading routes noted in PSC 1-6 have been implemented and continue to be refined.
- 4. KAW is working with American Water Service Company to identify areas for automated process improvements that will increase efficiency and reduce errors related to manual processes.

Witness: Roderick Sherman, and Andy Lewis

- 14. Beginning in January 1, 2018, explain how KAW assessed and determined whether a usage deviation became unusual enough as to warrant a notification to the customer.
 - a. Include in your response a discussion of whether the actions and measures KAW employs to assess and determine whether a usage deviation is unusual enough as to warrant a notification to the customer have changed since January 1, 2018. If so, provide a detailed discussion regarding how they have changed.

Response:

Please see the response to PSC 2-1, parts b and c.

Witness: Roderick Sherman and Andy Lewis

- 15. Beginning in January 1, 2018, explain how KAW notified affected customer(s) of their unusual usage.
 - a. Explain all measures that KAW instructed the affected customers to take.
 - b. Provide a discussion regarding all measures the Company undertook in following-up on customer communications regarding the notification of unusual usage. Include in your discussion any instances in which the Company failed to properly follow-up on such communications.
 - c. Include in your response a discussion of whether KAW's customer notifications of unusual usage, and the means of providing that notification, have changed since January 1, 2018. If so, provide a detailed discussion regarding how they have changed.

Response:

Please see KAW's response to PSC 2-1(b).

- a. Please see example letter below. To summarize, we inform customers that we have identified an unusual consumption or billing event and that there are many possible reasons for increases in their bill. We provide various examples of what could cause their bill to increase. We instruct them to try and locate the source of the increase. We inform them that we have leak detection kits available to them. Should they find the cause, we encourage them to address the problem as soon as possible. If the customer is still not able to find the source of the increase, we encourage them to call us to discuss further.
- b. As described in the response to PSC 2-1(b), letters are sent and bills disclose and graphically depict usage to inform them of deviations. High bill letters (as described in the response to PSC 2-1) are both system and manually created based on the circumstances and are monitored by the Billing team. Reporting is available; however, there is not a "schedule" for review, and is typically done by request when customers call in. See below for a sample of letters sent to customers.
- c. Notifications and means of providing notifications have not changed.



01/31/2023

Dear Customer

We appreciate your business and the opportunity to continue serving you, your neighbors and our local communities.

One of our responsibilities as your water service provider is to give you all the information you need to manage your water use, and to alert you when we notice something out of the ordinary. When we obtained your most recent meter reading, we noticed that your water use is considerably higher than normal.

There could be many reasons for unusually high water use, including short-term visitors, seasonal usage, or potential leaks. We suggest that you check your property for possible leaks or problems which could cause unusually high water use. If you determine that the source of the high water use is the result of a broken service line or internal plumbing problem, we encourage you to take steps as soon as possible to prevent recurring high bills.

We offer a Leak Detection Kit and other useful information for identifying high water use on our website, www.amwater.com. Many leaks are not noticeable but can contribute to unexpected water use. If you cannot determine the reason for your higher water use, please call our customer service center between the hours of 7am and 7pm at the number below.

Sincerely,

Kentucky American Water Customer Service



02/03/2023

Dear Customer

We appreciate your business and the opportunity to continue serving you, your neighbors and our local communities.

One of our responsibilities as your water service provider is to give you all the information you need to manage your water use, and to alert you when we notice something out of the ordinary. We recently saw an increase in water use, which surpassed 200% and \$200.00 when compared to the prior month. We also identified a similar disparity when compared to the prior year's use for this property. We have also verified the meter reading to confirm the device accurately recorded the registered water usage.

There could be many reasons for an increase in water use, including short-term visitors, seasonal usage, or potential leaks. We suggest that you check your property for possible leaks or problems which could cause unusually high water use. If you determine that the source of the high water use is the result of a broken service line or internal plumbing problem, we encourage you to take steps as soon as possible to prevent recurring high bills.

We offer a Leak Detection Kit and other useful information for identifying high water use on our website, <u>www.amwater.com</u>. Many leaks are not noticeable but can contribute to unexpected water use. If you cannot determine the reason for your higher water use, please call our customer service center between the hours of 7am and 7pm at the number below.

Sincerely,

PERCENTAGE_LTR

Kentucky American Water Customer Service

Customer Service: M-F 7am to 7pm Emergency: 24/7: 1-800-678-6301 www.kentuckyamwater.com

Witness: Melissa Schwarzell and Andy Lewis

16. Reference KAW's petition filed in Case No. 2016-00394, numerical paragraph 6. Confirm the following statements therein:

"All meters in KAW system are automatic meter read ("AMR") meters that are read using drive-by technology or manually read in the event of an issue with the AMR technology. The installation of AMR meters has eliminated the need for meter boxes to be accessed unless equipment failure occurs, and the meter or radio requires repair or replacement. If meters and meter settings are not functioning properly, KAW would either be notified by the customer or be alerted by an abnormal change in a customer's usage. The KAW billing system has triggers in place to provide alerts of potential issues, including two consecutive estimates, three consecutive zero usage reads, or abnormal over or under usage on a bill. Thus, in essence, KAW acquires and analyzes meter functioning data as often as every month when meters are read."

If so confirmed:

- a. For each instance in which KAW was unable to read a meter for the reasons being investigated in the instant investigation case, provide all records KAW made regarding the dates and times the meter reading attempts were made, and the reason(s) the meter could not be read.
- b. Explain whether any accounts that were affected by the issues which are the subject of the instant investigation case, and which had usage: (i) equal to or greater than two times the usage for the same period for the previous year; and (ii) which could not readily be attributed to an identified common cause, were billed prior to the Company re-reading the meter.
- c. Explain the back-up systems KAW had in place to physically read AMR meters in the event of "an issue with the AMR technology."
- d. Explain whether since January 1, 2018, KAW was required to access meter boxes.
- e. Explain whether since January 1, 2018, any failures occurred in AMR meters, radio transmitters, or radio reading devices.
- f. Explain whether KAW was alerted to improperly functioning AMR meters or AMR meter settings either by the customers, abnormal usage changes, or estimated readings.
- g. Explain whether the KAW billing system triggers performed as anticipated and as represented in Case No. 2016-00394.
- h. Explain whether KAW was collecting AMR meter functioning data for each AMR meter at issue in this investigation case, and if so, how frequently the data was collected.

Response:

Confirmed with the additional fact that approximately 99% of our meters are AMR.

- a. See the responses to PSC 1-3 and PSC 1-4. See also the response to AG 1-3.
- b. It is unclear what is intended by "the subject of the instant investigation case." If it intended to mean all meters which had consecutive estimated reads, some customers were billed with estimated bills before actual reads were obtained.
- c. See the response to PSC 1-6 for a detailed description of all steps KAW has and is taking to address consecutive estimates.
- d. If intended generally, the question is overly broad, unnecessarily burdensome, and unlikely to lead to relevant information. If the request is intended to mean whether meter boxes have had to be accessed when meter reads are not obtained, please see response to PSC 1-6 for the explanation of the efforts KAW is taking to minimize estimated meter reads.
- e. Please see the responses to PSC 1-3, 1-4, and PSC 1-6 for a detailed description of KAW's awareness and all steps KAW has and is taking to address consecutive estimates.
- f. Please see the responses to PSC 1-3, 1-4, and PSC 1-6 for a detailed description of KAW's awareness and all steps KAW has and is taking to address consecutive estimates.
- g. Yes, the SAP system functions as programmed.
- h. It is unclear what is intended by "meter functioning data." If the request intends to ask why some meters fail, please see responses to PSC 1-3 and 1-4.

Witness: Melissa Schwarzell and Roderick Sherman

- 17. Explain whether at all times relevant to this investigation case, KAW was in compliance with its obligations pursuant to: (i) 807 KAR 5:006 § 7(5)(a), which states, in pertinent part: ". . . each utility, except if prevented by reasons beyond its control, shall read customer meters at least quarterly;" and (ii) when applicable, with 807 KAR 5:006 § 7(5)(b), which states: "Each customer-read meter shall be read manually, at least once during each calendar year."
 - a. Provide the number of meters for which KAW for whatever reason did not: (i) read a meter at least quarterly; and/or (ii) read a customer-read meter manually at least once annually.
 - b. Provide the number of meters for which estimated readings were conducted in excess of three (3) consecutive estimated readings.

Response:

- a. For part (i), KAW does read meters monthly but does encounter issues obtaining actual reads and/or billable reads. For instances of three or more consecutive meter reads (which may have constituted a calendar quarter of estimation, depending on timing), please see attachment "KAW_R_AGDR1_NUM017_021023 ATTACHMENT_1". Please also see KAW's response to PSC 1-6 and AG 1-13 for the efforts KAW is undertaking to minimize estimated reads. Please also see PSC 2-7 for the reasons beyond KAW's control for some of the estimated reads. For part (ii), please note that KAW does not have any customer-read meters for this regulation to apply to, with the exception of some hydrant meters.
- b. Please see "KAW_R_AGDR1_NUM017_021023_ATTACHMENT_1."

Witness: Andy Lewis

18. Reference the petition in Case No. 2016-00394, numerical paragraph 7, in which KAW provided projected cost savings if the Commission granted the deviation at issue in the case. Provide the additional expense KAW incurred to address the complaints that gave rise to the instant investigation case, as well as the costs it incurred to fix / repair the problems KAW identified.

Response:

Numerical paragraph 7 of the petition in Case No. 2016-00394 <u>estimated</u> a portion of the "additional" costs which would be borne if the deviation were NOT granted. The deviation was granted, therefore the "additional" costs were not incurred and could not be tracked.

It is unclear what is intended by "the complaints" in this request. If the request intends to mean the specific complaints which were incorporated into this case, KAW provides the following information:

Of the seven formal cases incorporated into this case, five (Case Nos. 2017-00452, 2019-00016, 2019-00093, 2019-00133, 2019-00373) were ruled in favor of KAW and the customer paid the bill. With Needham Betz (Case No. 2019-00373), we settled the matter deleting the stuck meter back bill. In Hobdy (Case No. 2020-00033), the Commission ruled that we were to take the high bill and adjust back to average usage.

Witness: Roderick Sherman and Andy Lewis

- 19. Provide the number of field service work orders that expired out of KAW's system without having been worked by a field employee. For each such field service work order:
 - a. provide the length of time between when the issue was first reported until it was eventually addressed.
 - b. provide the nature of the problem that was addressed.

Response:

The tables below show all work orders and their "nature" that expired from the books during the time period of 2018-2023:

Expired Orders by Type							
Row Labels	2018	2019	2020	2021	2022	2023	Grand Total
Back Off. Review Investigation	228	161	57	109	80	1	636
Change InsideMeterWire ReadDev			1				1
Change Meter	98	90	60	382	509	1	1140
Change Meter Register Only				1	1		2
Change MeterPeriodicContractor	43	6					49
Change MeterPeriodicOutsideSet	1417	451	75	6	445		2394
Check MeterVerif Serial #&Read	151	64	13	16	47	5	296
Conservation Inspection			1				1
Demo-Disconnect Remove Meter	6	10					16
Inspect for Leak, Hi/Lo Usage	16	4	10	12	7	2	51
Investigate Hi/Low Pressure		3	7	5	4		19
Investigate PremiseStatusAddrs	2	1	1	1			5
Locate Curb Box	12	6	2	11	14	2	47
Meter Test Customer Request			10	15	6		31
Must Read MetersBillingUseOnly	45	4	8	19	36		112
Priority Read for Billing	2381	1085	522	1907	2324	333	8552
Radio Frequency Installation		1				1	2
Read	279	185	69	197	462	33	1225
Remove Meter		1	1	1			3
Repair/Install Reading Device	11268	14575	853	4710	5446	291	37143
Stop Consec Est - Inside	5	1			2		8
Stop Consec Est - Outside	11892	1508	575	3374	5505	437	23291
Turn Off NP	1010	527	215	2105	1373	289	5519
Turn Off Repairs		1					1
Turn Off Water NP Muni Sewer	670	395	119	1	406	52	1643
Turn Off-Inactive w/Consumpt	3764	1740	36	121	91	4	5756
Zero Usage - See if Mtr Stuck	680	358	100	351	539	29	2057
Grand Total	33967	21177	2735	13344	17297	1480	90000

Expired Service Orders do actually that in the system: they expire. Because an expired order is no longer tracked, there is no way to measure the length of time between its expiration and another future point in time. If a condition remains that needs to be worked, it would be worked when a new Service Order is generated.

Witness: David Hill

20. Explain whether KAW, or any contractors on its behalf, conducted any type or sort of report(s), study (or studies), or audit(s) to investigate the cause(s) of the AMR meter reading issues at issue in this case. If so, provide a copy of all such reports / studies / audits.

Response:

Kentucky American Water is providing this response pursuant to a contemporaneously filed Petition for Confidential Protection.

More broadly than just this case, American Water does seek efficiency improvements in delivering safe, affordable and reliable service to our customers.

KAW has reviewed, in early 2021, select data logs for both random meters and meters which had a process exception. The results are summarized below:





Additionally, please see Attachment 1, which is a January 7, 2022 Internal Audit Report on Customer Meters which includes observations, risks and recommendations to improve the meter set up process, monitoring of meter processes, and guidance for the installation and testing/replacement of large meters.

Witness: Kathryn Nash and Melissa Schwarzell

21. Provide a discussion regarding all remedial actions KAW took to address the problems which are the subject of the instant investigation case. Include in your discussion whether any of the problems are continuing.

Response:

The Company notes that "the problems which are the subject of the instant investigation case" is undefined. Having said that, the Commission's September 27, 2022 Order in this matter focuses on the issue of consecutive estimates. For a detailed description of how the Company has and is addressing that issue, see the response to PSC 1-6, PSC 1-8, PSC 2-11, and AG 1-13.