COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:		
ELECTRONIC INVESTIGATION INTO EXCESSIVE WATER LOSS BY KENTUCKY'S)	Case No. 2019-00041
JURISDICTIONAL WATER UTILITIES)	
CAWOOD WATER DISTRICT'S RESPONSE TO	_	
CONTAINED IN APPENDIX C TO THE COM MARCH 12, 201		ON'S ORDER ENTERED

Item 1
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

1. Provide the utility's monthly unaccounted for loss water loss percentage report with associated underlying data from January 1, 2018, to the date of the issuance of this Order.

Response:

Please see attached. Provided are monthly water loss reports for Cawood followed by reports for Pathfork; the Pathfork area is served exclusively with water purchased from Pineville Utility Commission.

Water Utili	ty: Cawood Water District	PWSID:	KY0480565	
For the Mo	onth of: Jan	Year:	2018	
1	PRODUCTION COST PER THOUSAND	(insert cost)		
2	PURCHASE COST PER THOUSAND	(insert cost)		
-		(GALLONS	
	WATER PRODUCED or PURCHASED		OALLONG	
3	Water Produced	-	13,600,987	92.3%
4	Water Purchased	.2	1,128,000	7.7%
5	TOTAL PRODUCED AND PU	JRCHASED	14,728,987	
6	TOTAL COST #VALUE!			
	WATER SOLD			
7	Residential		7,198,986	
8	Commercial			
9	Industrial			
10 11	Bulk Loading Stations Wholesale			
12	Other Sales (explain)			
12	Curior Gardo (Oxpiani)			
13	TOTAL WA	TER SOLD	7,198,986	48.9%
14	TOTAL WATER	NOT SOLD	7,530,001	51.1%
	BREAKDOWN OF WATER USAGE			
15	Water Treatment Plant		40,000	
16	Wastewater Treatment Plant		50.000	//\ / A
17	System Flushing Fire Department Hoose		William Printer and Company of the Printer of the P	#VALUE!
18 19	Fire Department Usage DBP Flushing DBP Maintenance		9,505	#VALUE!
19	DBF Flushing		U	
20	TOTA	AL USAGE	102,187	
21	WATER LOSS PERCENT	AGE FOR F	RATE PURPOSES	50.4%
	BREAKDOWN OF WATER LOST			
22	Tank Overflows (other than for DBP maintenance)			
23	Excavation Breaks		0	
24	Repaired Line Breaks		1,520,249	#VALUE!
25	Unknown Loss		5,907,565	40.1%
26	TOTAL WATER NOT SOLD	OR USED	7,427,814	2
27	COST OF WATER NOT SOLE		#VALUE!	
	"UNKNOWN LOSS" FLOW RATE AND COST:			
28	"Unk	nown Loss"	5,907,565	
29	5.70 500000	nown Loss"	40.1%	
30	Number of Day	•		
31	"Unknown Loss" per Day (Gallo		196,919	
32 33	"Unknown Loss" per Mi "Unknown Loss" Cos		136.75	
33	Olikilowii Loss Cos	אנוטו ועוטוונוו	#VALUE!	

Water Utili	ty: Cawood Water District	PWSID:	KY0480565	
For the Mo	onth of: Feb.	Year:	2018	
4	PRODUCTION COST PER THOUSAND	(:		
1 2	PURCHASE COST PER THOUSAND	(insert cost)		
2	FORCHASE COST LEK THOOGAND	(IIISEIT COST)		
			GALLONS	
0	WATER PRODUCED or PURCHASED	1	40,000,400	05.70/
3	Water Produced Water Purchased		10,202,490	95.7%
4	TOTAL PRODUCED AND PL	IDCHASED	454,000 10,656,490	4.3%
5 6	TOTAL PRODUCED AND PO	UKCHASED	10,656,490	
	WATER SOLD			
7	Residential		5,407,836	
8	Commercial			
9	Industrial			
10	Bulk Loading Stations			
11	Wholesale			
12	Other Sales (explain)			
13	TOTAL WA	ATER SOLD	5,407,836	50.7%
14	TOTAL WATER	NOT SOLD	5,248,654	49.3%
	BREAKDOWN OF WATER USAGE			
15	Water Treatment Plant		40,000	
16	Wastewater Treatment Plant			
17	System Flushing		186,265	#VALUE!
18	Fire Department Usage		0	
19	DBP Flushing DBP Maintenance		96,300	#VALUE!
20	тот	AL USAGE	322,565	
21	WATER LOSS PERCENT	TAGE FOR F	RATE PURPOSES	46.2%
	BREAKDOWN OF WATER LOST			
22	Tank Overflows (other than for DBP maintenance)			
23	Excavation Breaks		0	
24	Repaired Line Breaks		3,254,578	
25	Unknown Loss		1,671,510	15.7%
26	TOTAL WATER NOT SOLI	D OR USED	4,926,089	
27	COST OF WATER NOT SOLI	D OR USED	#VALUE!	
00	"UNKNOWN LOSS" FLOW RATE AND COST:			
28		known Loss"	1,671,510	
29	NO	known Loss"	15.7%	
30 31	Number of Da "Unknown Loss" per Day (Gallo			
32	"Unknown Loss" per Day (Galic		55,717 38.69	
33	"Unknown Loss" Co		#VALUE!	
55	Similari Edda Ou	ocioi Mondi	WVALUE:	

Water Utilit	y: Cawood Water District	PWSID:	KY0480565	
For the Mo	onth of: March	Year: [2018	
1	PRODUCTION COST PER THOUSAND	(insert cost)		
	PURCHASE COST PER THOUSAND	(insert cost)		
			GALLONS	
	WATER PRODUCED or PURCHASED Water Produced		10,559,000	100.0%
	Water Produced Water Purchased		10,000,000	0.0%
5	TOTAL PRODUCED AND	PURCHASED	10,559,000	0.070
6	TOTAL COST #VALUE	Ξ!		
	WATER SOLD			
	Residential		6,022,485	
	Commercial			
	Industrial			
	Bulk Loading Stations Wholesale			
(4) (5)	Other Sales (explain)			
12	Other dates (explain)			
13	TOTAL	WATER SOLD	6,022,485	57.0%
14	TOTAL WATE	ER NOT SOLD	4,536,515	43.0%
	BREAKDOWN OF WATER USAGE			
15	Water Treatment Plant		1,050,000	
16	Wastewater Treatment Plant		4 040 400	//3 / A 1 A 1 == 1
17 18	System Flushing Fire Department Usage		1,049,402	#VALUE!
19	DBP Flushing DBP Maintenand	`	193,475	#VALUE!
10	DDI Fidoling		100,470	#AVEOF:
20	T	OTAL USAGE	2,292,877	
21	WATER LOSS PERCE	NTAGE FOR	RATE PURPOSES	21.2%
	BREAKDOWN OF WATER LOST			
22	Tank Overflows (other than for DBP maintenance)			
23	Excavation Breaks		0	#
24 25	Repaired Line Breaks Unknown Loss		287,675 1,955,963	#VALUE! 18.5%
20	Olikilowii E000		1,900,900	10.5%
26	TOTAL WATER NOT SO	OLD OR USED	2,243,638	
27	COST OF WATER NOT SO	OLD OR USED	#VALUE!	
00	"UNKNOWN LOSS" FLOW RATE AND COST:			
28		Jnknown Loss'	.,,	
29 30		Jnknown Loss' Days in Period	The same of the sa	
31	"Unknown Loss" per Day (G	allons per Davi	30 65,199	
32	"Unknown Loss" per	r Minute (GPM)	45.28	
33	"Unknown Loss"			
	1			

Water Utili	ity:	Cawood	Water District	PWSID:	KY0480565	
For the Mo	onth of:	April		Year:	2018	
					20.10	
1	PRODUCT	TION COST PER TH	OUSAND	(insert cost)		
2	PURCHAS	E COST PER THOU	ISAND	(insert cost)		
				,	GALLONS	
	WATER P	RODUCED or PURC	HASED	×		
3	Water Prod				10,297,982	100.0%
4	Water Pure					0.0%
5 6			AL PRODUCED AND F AL COST #VALUE		10,297,982	
	WATER S	OLD				
7	Residentia	I			6,156,370	
8	Commercia	al				
9	Industrial					
10		ng Stations				
11	Wholesale					
12	Other Sale	s (explain)				
13				ATER SOLD	6,156,370	59.8%
14			TOTAL WATER	R NOT SOLD	4,141,612	40.2%
	RDEAKDO	OWN OF WATER US	AGE			
15		atment Plant		1	1,023,180	
16	g. s. enement and a second	er Treatment Plant			1,020,100	
17	System Flu				661,200	#VALUE!
18		tment Usage			The state of the s	#VALUE!
19	DBP Flush	•	DBP Maintenance	•		#VALUE!
					*	
20				TAL USAGE	10 graph 1 acres (1 a	22.22
21	DDEAMD	OWN OF WATER LO	VATER LOSS PERCEN	HAGE FOR I	KATE PURPOSES	22.3%
22		flows (other than for				
23	Excavation		DDF maintenance)		0	
24		ine Breaks			215,756	#VALUE!
25	Unknown I				2,079,312	20.2%
					,0.0,0.1	
26			TAL WATER NOT SOL		2,295,068	
27		COST	FOF WATER NOT SOI	LD OR USED	#VALUE!	
	WILLIAM NOV	AN LOSS" ELOW DA	ATE AND COST.			
20	UNKNOV	VN LOSS" FLOW RA		nknown Loss"	2 070 242	
28 29				nknown Loss nknown Loss"	2,079,312 20.2%	
30				Days in Period		
31		"l lnkn	own Loss" per Day (Gal			
32		Official	"Unknown Loss" per l			
33			"Unknown Loss" C		#VALUE!	

Water Utility:	Cawood Water District PWSID	KY0480565	
For the Month of:	. May Year:	2018	
1 PRODUC	TION COST PER THOUSAND (insert cost	\	
	SE COST PER THOUSAND (insert cost		
2 TOROTIA	on odd i nit i i i odd i i o	/	
	DODUGED DUDGUAGED	GALLONS	
	PRODUCED or PURCHASED	10,255,100	100.0%
3 Water Pro4 Water Put		10,233,100	0.0%
5	TOTAL PRODUCED AND PURCHASED	10,255,100	0.070
6	TOTAL COST #VALUE!	10,200,100	
WATERS			
7 Residentia		6,259,016	
8 Commerc		0,200,010	
9 Industrial		7	
-	ling Stations		
11 Wholesale			
12 Other Sale	es (explain)		
13	TOTAL WATER SOLD		61.0%
14	TOTAL WATER NOT SOLD	3,996,084	39.0%
	OWN OF WATER USAGE		
	eatment Plant	125,550	
	ter Treatment Plant		
17 System FI		1,619,085	#VALUE!
	rtment Usage	0	
19 DBP Flus	hing DBP Maintenance	83,817	#VALUE!
20	TOTAL LICACE	1 000 450	
20	TOTAL USAGE WATER LOSS PERCENTAGE FOR		24 49/
21	OOWN OF WATER LOST	KATE PURPUSES	21.1%
	rflows (other than for DBP maintenance)		
23 Excavatio		0	
	Line Breaks	497,635	#VALUE!
25 Unknown		1,669,996	16.3%
20 01111101111		1,000,000	10.070
26	TOTAL WATER NOT SOLD OR USED	2,167,632	
27	COST OF WATER NOT SOLD OR USED		
"UNKNO	WN LOSS" FLOW RATE AND COST:		
28	"Unknown Loss'	1,669,996	
29	% "Unknown Loss"	16.3%	
30	Number of Days in Period	30	
31	"Unknown Loss" per Day (Gallons per Day)		
32	"Unknown Loss" per Minute (GPM)		
33	"Unknown Loss" Cost for Month	ı #VALUE!	

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water	Utility:	Cawood Water District			
For the	e Month of:	June	Year:	2018	
			L		
LINE #		ITEM		GALLONS (Omit 000's)	
1		ED, PURCHASED & DISTRIBUTED			
2	Water Produced			10,231,136	
3	Water Purchased				
4		TOTAL PRODUCED AND PURC	CHASED	10,231,136	
5					
6	WATER SALES		- Internal November 1985		
7	Residential			8,116,672	
8	Commercial				
9	Industrial				
10	Bulk Loading Statio	ons			
11	Wholesale	,			
12	Other Sales				
13		TOTAL WATER	RSALES	8,116,672	79.3%
14				Y .	
15	OTHER WATER U				
16	Utility and/or Water	Treatment Plant		40,000	
17	Wastewater Plant				
18	System Flushing			397,095	
19	Fire Department			5,601	
20	Other				
21		TOTAL OTHER WATE	R USED	442,696	4.3%
22					
23	WATER LOSS				
24	Tank Overflows				
25	Line Breaks				
26	Line Leaks			1,671,768	
27	Other				
28	L	TOTAL LIN	E LOSS	1,671,768	16.3%
29					
30	Note: Line 13 + Lin	ne 21 + Line 28 Must Equal Line 4			
31	WATER ! 000 PE	DOENTA OF			
32	WATER LOSS PEI				
33	Unaccounted-For V	Vater (Line 28 divided by Line 4)		16.3%	

Vater Util	ity: Cawood Water District PWSID:	KY0480565	
or the M	onth of: July Year:	2018	
ine#	Item	Gallons	
1	Water Produced, Purchased and Distributed		
2	Water Produced	11,572,316	
3	Water Purchased	0	
4	Water Produced & Purchased	11,572,316	•
5			
6	Water Sales		
7	Residential	5,800,075	
8	Commercial	0	
9	Industrial	0	
10	Bulk Loading Stations	0	
11	Wholesale	0	
12	Other Sales (explain) 0	0	
13	Total Water Sales	5,800,075	50.1%
14			
15	Other Water Used		
16	Utility and/or Water Treatment Plant	40,000	
17	Wastewater Treatment Plant	0,000	
18	System Flushing	650,143	
19	Fire Department Usage	28,004	
20	Other Usage (explain) DBP Maintenance	114,771	
20	Other Osage (explain)	1 (4,17)	
21	Total Other Water Used	832,918	7.2%
22	1041 01101 114101 0004	002,010	7,122,70
23	Water Loss	1	
24	Tank Overflows	0	
25	Line Breaks	173,028	
26	Line Leaks	4,766,294	
27	Other	1,100,201	
As I			
28	Total Line Loss	4,939,323	42.7%
29	I OWI LING LOOP	-,,	
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
31	100. Ello 10 - Ello 21 - Ello 20 Muot Equal Ello 4		
32	Water Loss Percentage		
	Unaccounted-For Water (Line 28 Divided by Line 4)	42.7%	
	Citation I of the control of the control of the control of		

Water Util	ty: Cawood Water District/Pathfork] PWSID:[KY0480565	
For the Mo	onth of: August	Year:	2018	
101 1110 1111				
1	PRODUCTION COST PER THOUSAND	(insert cost)		
2	PURCHASE COST PER THOUSAND	(insert cost)		
			GALLONS	
	WATER PRODUCED or PURCHASED			
3	Water Produced		700 000	0.0%
4	Water Purchased TOTAL PRODUCED AND PL	IDCHASED	726,000	100.0%
5 6	TOTAL PRODUCED AND PO	JKCHASED	726,000	
	WATER SOLD			
7	Residential	1		
8	Commercial		582,408	
9	Industrial	}		
10 11	Bulk Loading Stations Wholesale	}		
12	Other Sales (explain)	ŀ		
12	Cure care (explain)			
13	TOTAL WA	TER SOLD	582,408	80.2%
14	TOTAL WATER	NOT SOLD	143,592	19.8%
	BREAKDOWN OF WATER USAGE	-		
15	Water Treatment Plant	-		
16 17	Wastewater Treatment Plant	-	0	
18	System Flushing Fire Department Usage	ŀ	0	
19	DBP Flushing DBP Maintenance	-	0	
10	DDI Tidelining		9	
20	ТОТА	AL USAGE	0	
21	WATER LOSS PERCENT	AGE FOR R	ATE PURPOSES	19.8%
	BREAKDOWN OF WATER LOST	-	1	
22	Tank Overflows (other than for DBP maintenance)			
23	Excavation Breaks	-	0	
24 25	Repaired Line Breaks Unknown Loss	L	143,592	19.8%
25	OTIKITOWIT LOSS		143,392	13.0%
26	TOTAL WATER NOT SOLE	OR USED	143,592	
27	COST OF WATER NOT SOLE		#VALUE!	
	"UNKNOWN LOSS" FLOW RATE AND COST:			
28		nown Loss"	143,592	
29		nown Loss"	19.8%	
30	(insert days of operation during month) Number of Da			
31 32	"Unknown Loss" per Day (Gallo "Unknown Loss" per Mi			
33	"Unknown Loss" Co:	•	#VALUE!	
	5.11d.10.11.1 £055 ° 00.			

Water Ut	lity: Cawood Water District PWSID	: KY0480565	
For the N	onth of: September Year:	2018	
Line #	Item	Gallons	
1	Water Produced, Purchased and Distributed		
2	Water Produced	12,670,985	
3	Water Purchased	1,011,000	
4	Water Produced & Purchased	13,681,985	
5	,		
6	Water Sales		
7	Residential	6,942,241	
8	Commercial	0	
9	Industrial	0	
10	Bulk Loading Stations	0	
11	Wholesale	0	
12	Other Sales (explain)0	0	
13	Total Water Sales	6,942,241 50.7	7%
14			السحد
15	Other Water Used		
16	Utility and/or Water Treatment Plant	40,000	
17	Wastewater Treatment Plant	0	
18	System Flushing	233,671	
19	Fire Department Usage	0	
20	Other Usage (explain) DBP Maintenance	0	
21	Total Other Water Used	273,671 2.0	0%
22			
23	Water Loss		
24	Tank Overflows	0	
25	Line Breaks	1,632,382	
26	Line Leaks	4,833,691	
27	Other		
28	Total Line Loss	6,466,073 47.3	3%
29 30	Note: Line 12 + Line 21 + Line 29 March Farrell in 4		manual .
31	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
32	Water Loss Percentage		
33	Unaccounted-For Water (Line 28 Divided by Line 4)	47.3%	

Water Uti	lity:	Cawood	Water	PWSID:	480565	
For the M	onth of:	OCTOBER		Year:	2018	
Line#		Item			Gallons	
1	Water Pro	duced, Purchased and	Distributed			
2	Water Pro	duced			12,788,841	
3	Water Pur	chased			23,400	
4			Water Produced & F	Purchased	12,812,241	
5				nyapana ar ay ay ay ay ay ay ay		
6	Water Sale	es				
7	Residentia	1			5,389,786	
8	Commerci	al			0	
9	Industrial				0	
10	Bulk Loadi	ng Stations			0	
11	Wholesale				0	
12	Other Sale	s (explain)	0	-	0	
13			Total W	ater Sales	5,389,786	42.1%
14						
15	Other Wat	er Used				
16		or Water Treatment Plar	nt		70,000	
17		er Treatment Plant	*		0	
18	System Flu				662,933	
19		tment Usage			0	
20	Other Usag	ge (explain)	DBP Maintenance		296,729	
21			Total Other W	later Used	1,029,663	8.0%
22						
23	Water Los					
24	Tank Over	2010-000-000			0	
25	Line Break				1,058,818	
26	Line Leaks				5,333,974	
27	Other					
00			T-4-1		0.000.700	40.00/
28			I otal	Line Loss	6,392,792	49.9%
29	Niete-Li	40 . 15 04 . 15 00 5	Augh Count Line 4			
30	Note: Line	13 + Line 21 + Line 28 M	viust Equal Line 4			
31	Weterler	- Davisantana				
32		s Percentage	Divided by Line 4		40.00/	
33	Unaccoun	ted-For Water (Line 28	טועום by Line 4)		49.9%	

em ased and Distributed Water Produce 0 Total	al Water Sales	2018 Gallons 12,599,938 0 12,599,938 6,411,710 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Water Produce O Total cment Plant	al Water Sales	12,599,938 0 12,599,938 6,411,710 0 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Water Produce 0 Tote tment Plant	al Water Sales	0 12,599,938 6,411,710 0 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Tot ment Plant lant	al Water Sales	0 12,599,938 6,411,710 0 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Tot ment Plant lant	al Water Sales	6,411,710 0 0 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Tot ment Plant lant	al Water Sales	6,411,710 0 0 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Tot ment Plant lant		0 0 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Tot ment Plant lant		0 0 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Tot ment Plant lant		0 0 0 0 0 0 6,411,710 70,000 0 115,486	50.9%
Tot ment Plant lant		70,000 0 115,486	50.9%
Tot ment Plant lant		0 0 0 6,411,710 70,000 0 115,486	50.9%
Tot ment Plant lant		70,000 0 115,486	50.9%
Tot ment Plant lant		70,000 0 115,486	50.9%
Tot ment Plant lant		70,000 0 115,486	50.9%
ment Plant lant		70,000 0 115,486	50.9%
lant		0 115,486	
lant		0 115,486	
lant		0 115,486	
DBP Maintenan			
DBP Maintenan		127 000	
DBP Maintenan		137,908	
	ce	22,812	
Total Oth	er Water Used	346,206	2.7%
			1879
		5,531,898	
Т	otal Line Loss	5,842,022	46.4%
-	T - Line 28 Must Equal Line 4	Total Line Loss Line 28 Must Equal Line 4	

Water Utility:		Cawood Water		PWSID:	480565		
For the Me	onth of:	Decembe	r		Year:	2018	
4	PPOPUOT		T				ı
1 2		ION COST PER E COST PER TI			(insert cost)		
2	PUNCHAS	E COST PER II	TOUSAND		(insert cost)		
						GALLONS	
0		RODUCED or PI	JRCHASED			10 000 500	400.00/
3 4	Water Prod Water Purd				}	13,029,568 2,040	100.0% 0.0%
5	vvaler Full		OTAL PRODI	JCED AND PUI	RCHASED.	13,031,608	0.0%
6			TOTAL COST	#VALUE!	KONAGED	10,001,000	
	WATER SO						
7	Residential			¥		5,103,312	
8	Commercia Industrial	al					
9 10	Bulk Loadir	na Stations			}		
11	Wholesale	ig Stations			-		
12	Other Sales	s (explain)					
13				TOTAL MAAT	ED COLD	E 402 242	20.20/
14			ТО	TOTAL WAT		5,103,312 7,928,296	39.2% 60.8%
4.5		WN OF WATER	USAGE		· r	0.4.000	
15 16		tment Plant			-	84,000	
17	System Flu	r Treatment Plar	IL		}	928,253	#VALUE!
18	•	ment Usage			ŀ	920,233	#VALUE!
19	DBP Flushi		DBP I	Maintenance		417,714	#VALUE!
20				TOTA	L USAGE	1 420 067	
21			WATER LO			1,429,967 ATE PURPOSES	49.9%
	BREAKDO	OWN OF WATER			10210111	VIII - OII - OOLO	
22		lows (other than		enance)			
23	Excavation	Breaks				0	
	Repaired L						
25	Unknown L	oss				3,543,967	27.2%
26			TOTAL WATE	R NOT SOLD	OR USED	6,498,329	
27		C	OST OF WATE	R NOT SOLD	OR USED	#VALUE!	
	"IINKNOW	N LOSS" FLOW	PATE AND C	OST:			
28	OMMINON	N LOGO I LOW	MAIL AND C		own Loss"	3,543,967	
29					own Loss"	27.2%	
30	(insert days	of operation during	month)	Number of Days	s in Period		
31				per Day (Gallon	The second secon		
32				Loss" per Min			
33			"Unkno	own Loss" Cost	for Month	#VALUE!	

Water Uti	lity:	Cawood Water PWSII			480565	
For the M	onth of:	JANUARY		Year:	2019	
1	DDODLICT	ION COST PER	LUOTIGAND	//		Í
2		E COST PER TH		(insert cost) (insert cost)		
2	I OROHAG	L COST PER III	OUSAND	(insert cost)		
	WATER D	RODUCED or PU	DOLLAGED		GALLONS	
3	Water Prod		RCHASED		12.065.420	100.00/
4	Water Purc				13,065,429	100.0% 0.0%
5	vvater i dit		OTAL PRODUCED A	ND PHRCHASED	13,065,429	0.076
6	Marine Allena Marine Marine and a second	T		LUE!	10,000,429	
	WATER SO					
7	Residentia				6,028,091	
8	Commercia	al				
9	Industrial					
10	Bulk Loadii					
11	Wholesale			8		
12	Other Sale	s (explain)				
13				AL WATER SOLD	6,028,091	46.1%
14			TOTAL W	ATER NOT SOLD	7,037,338	53.9%
	DDEAKDO	WAL OF WATER	ISACE			
15		WN OF WATER I atment Plant	USAGE	- 1	40,000	
16		atment Plant er Treatment Plant			40,000	
17	System Flu				240,534	#VALUE!
18		tment Usage			240,004	#VALUL!
19	DBP Flushi		DBP Mainten	ance	514,256	#VALUE!
13	DDI TIUSIII		DDI Waliteri	·	014,200	#V/\LOL:
20			WATER LOSS RE	TOTAL USAGE	794,790	47 00/
21	DDEAKDO	OWN OF WATER	WATER LOSS PER	CENTAGE FOR F	ATE PURPUSES	47.8%
22			or DBP maintenance)			
23	Excavation		or DDF mamenance,		0	
24	Repaired L				0	
25	Unknown L				6,242,548	47.8%
		_				
26			OTAL WATER NOT		6,242,548	
27		CO	ST OF WATER NOT	SOLD OR USED	#VALUE!	
	"I INKNOW	NI OSS" FLOW	RATE AND COST:			
28	OIAICIAOAA	N LOSS I LOW	IVATE AND GOOT.	"Unknown Loss"	6,242,548	
29			0,	6 "Unknown Loss"	47.8%	
30				of Days in Period	30	
31		"l Ink	nown Loss" per Day		208,085	
32		3111		per Minute (GPM)	144.50	
33				s" Cost for Month	#VALUE!	

Water Utility:		Cawood Water			480565	
For the M	onth of:	FEBRUARY		Year:	2019	21
1	PRODUCTIO	N COST PER THOUSAND)	(insert cost)		
2	PURCHASE (COST PER THOUSAND		(insert cost)		
					GALLONS	
		DUCED or PURCHASED				
3 4	Water Produc Water Purcha				11,513,472	99.9%
5	vvaler Purcha		DUCED AND PUI	RCHASED	8,810 11,522,282	0.1%
6		TOTAL COS		NCHA3ED	11,522,202	
-	WATER SOL	D		г		
7	Residential				5,679,998	
8	Commercial Industrial			-		
10	Bulk Loading	Stations		-		
11	Wholesale	Stations		*		
12	Other Sales (e	explain)				
13 14			TOTAL WAT OTAL WATER N		5,679,998 5,842,284	49.3% 50.7%
14			OTAL WATER N	IOI SOLD	5,042,204	30.7 %
	BREAKDOW	N OF WATER USAGE				
15	Water Treatm			Γ	90,000	,
16	Wastewater T	reatment Plant				
17	System Flushi				229,587	#VALUE!
18	Fire Departme				0	
19	DBP Flushing	DBF	P Maintenance		398,538	#VALUE!
20			TOTA	L USAGE	718,125	
21		WATER L			ATE PURPOSES	44.5%
	BREAKDOW	N OF WATER LOST				
22	Tank Overflow	s (other than for DBP mai	ntenance)			
23	Excavation Br				0	
24	Repaired Line				2,534,500	
25	Unknown Loss	5			2,589,659	22.5%
26		TOTAL WA	TER NOT SOLD	OR USED	5,124,159	
27			TER NOT SOLD		#VALUE!	
			4			
	"UNKNOWN	OSS" FLOW RATE AND	COST:			
28				own Loss"	2,589,659	
29				own Loss"	22.5%	
30		W I - I I	Number of Days	_	28	
31			per Day (Gallon:		92,488	
32 33			wn Loss" per Min (nown Loss" Cost		64.23 #VALUE!	
.00		Olik		TOT MOTITE	#V/ILUL:	

Water Util	ity:	Cawood	Water District/Path	fork	PWSID:	KY0483727	
For the M	onth of:	JANUAF	RY		Year: [2018	
1	PRODUCT	ION COST PE	R THOUSAND		(insert cost)		
2		E COST PER			(insert cost)		
		*				GALLONS	
		RODUCED or I	PURCHASED		Г		0.00/
3 4	Water Prod Water Purd				-	593,000	0.0% 100.0%
5	vvaler Full	Silaseu	TOTAL PRODUCE	AND PUE	RCHASED	593,000	100.076
6				VALUE!	COLIACED		
	WATER SO				-		
7	Residential				1	439,320	
8	Commercia Industrial	al			-		
10	Bulk Loadii	ng Stations			-		
11	Wholesale				-		
12	Other Sale	s (explain)					
13			T	TAL WAT	FR SOLD	439,320	74.1%
14				WATER N		153,680	25.9%
	DDEAKDO	NAMI OF WATE	DUCACE				
15		WN OF WATE atment Plant	K USAGE		Г		
16		er Treatment Pla	ant		-		
17	System Flu					0	
18	•	tment Usage				0	
19	DBP Flushi	ing	DBP Maint	enance		0	
20					L USAGE	0_	
21				ERCENTA	GE FOR R	ATE PURPOSES	25.9%
22		OWN OF WATE	ER LOST n for DBP maintenan	20)	Г		
23	Excavation	•	II IOI DDF IIIailitellali	Ce)		0	
24	Repaired L					0	
25	Unknown L				_	153,680	25.9%
26			TOTAL WATER N	OT SOLD	OR USED	153,680	
27		(COST OF WATER N			#VALUE!	
	I''I INIKNIOW	MI OSS" ELO	W RATE AND COST	'.			
28	CINKINOW	IN LUSS FLO	W RATE AND COST		own Loss"	153,680	
29					own Loss"	25.9%	
30	(insert days	s of operation durin	g month) Num	ber of Days	page 1		
31		"[Jnknown Loss" per D				
32			"Unknown Los			(0.401.4.17)	
33			"Unknown	Loss" Cost	tor Month	#VALUE!	

Water Util	ity: Cawood Water District/Pathfork PWSID: ky0480565	
For the Me	onth of: Feb Year: 2018	
1	PRODUCTION COST PER THOUSAND \$0.00	
2	PURCHASE COST PER THOUSAND \$0.00	
	GALLONS	
	WATER PRODUCED or PURCHASED	
3	Water Produced \$0.00	0.0%
4	Water Purchased \$0.00 679,000	100.0%
5 6	TOTAL PRODUCED AND PURCHASED 679,000 TOTAL COST \$0.00	
	WATER SOLD	
7	Residential 401,170	
8	Commercial	
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales (explain)	
13	TOTAL WATER SOLD 401,170	59.1%
14	TOTAL WATER NOT SOLD 277,830	40.9%
45	BREAKDOWN OF WATER USAGE	
15	Water Treatment Plant Wastewater Treatment Plant	
16 17	System Flushing 96,783	\$0.00
18	Fire Department Usage 5,000	\$0.00
19	DBP Flushing DBP Maintenance 0	\$0.00
10	DDI Hadilling DDI Maintonando 0	
20	TOTAL USAGE 101,783	
21	WATER LOSS PERCENTAGE FOR RATE PURPOSES	25.9%
	BREAKDOWN OF WATER LOST	
22	Tank Overflows (other than for DBP maintenance)	
23	Excavation Breaks 0	
24	Repaired Line Breaks 0	
25	Unknown Loss 176,047	25.9%
26.	TOTAL WATER NOT SOLD OR USED 176,047	
27	COST OF WATER NOT SOLD OR USED \$0.00	
*	"UNKNOWN LOSS" FLOW RATE AND COST:	
28	"Unknown Loss" 176,047	
29	% "Unknown Loss" 25.9%	
30	Number of Days in Period 31	
31	"Unknown Loss" per Day (Gallons per Day) 5,679	
32	"Unknown Loss" per Minute (GPM) 3.94	
33	"Unknown Loss" Cost for Month \$0.00	
	•	

Water Utili	ty: Cawood Water District/Pathfork	PWSID:	ky0480565	
For the Mo	onth of: March	Year:	2018	
4	PRODUCTION COST PER THOUSAND	1	\$0.00	
1 2	PURCHASE COST PER THOUSAND		\$0.00	
~		1	Ψ0.00	
			GALLONS	
_	WATER PRODUCED or PURCHASED	1		
3	Water Produced \$0.00		F42 000	0.0%
4 5	Water Purchased \$0.00 TOTAL PRODUCED AND PU	DCHAGED	543,000 543,000	100.0%
6	TOTAL COST \$0.00	KCHASED	343,000	
	WATER SOLD			
7	Residential		521,590	
8	Commercial			
9	Industrial			
10	Bulk Loading Stations			
11 12	Wholesale Other Sales (explain)			
12	Other Sales (explain)			
13	TOTAL WA	TER SOLD	521,590	96.1%
14	TOTAL WATER	NOT SOLD	21,410	3.9%
	BREAKDOWN OF WATER USAGE	i		
15	Water Treatment Plant			
16	Wastewater Treatment Plant			
17 18	System Flushing Fire Department Usage		0	
19	DBP Flushing DBP Maintenance		0	
13	DBI Tradining		0	
20	TOTA	AL USAGE	0	
21	WATER LOSS PERCENT	AGE FOR F	RATE PURPOSES	3.9%
20	BREAKDOWN OF WATER LOST			
22	Tank Overflows (other than for DBP maintenance) Excavation Breaks		0	
23 24	Repaired Line Breaks		0	
25	Unknown Loss		21,410	3.9%
			21,110	0.070
26	TOTAL WATER NOT SOLD		21,410	
27	COST OF WATER NOT SOLD	OR USED	\$0.00	
	WILLIAM COOK ELOW DATE AND COOT.			
28	"UNKNOWN LOSS" FLOW RATE AND COST:	nown Loss"	21,410	
29		nown Loss	3.9%	
30	Number of Day	CONTRACTOR OF THE PROPERTY OF THE PARTY OF T		
31	"Unknown Loss" per Day (Gallo		691	
32	"Unknown Loss" per Mi		0.48	
33	"Unknown Loss" Cos	st for Month	\$0.00	
			1	

Water Utili	ty: Cawood Water District/Pathfork	PWSID:	ky0480565	
For the Mo	onth of: April	Year:	2018	
	PRODUCTION COST PER THOUSAND		\$0.00	
2	PURCHASE COST PER THOUSAND		\$0.00	
			GALLONS	
	WATER PRODUCED or PURCHASED	1		
3	Water Produced \$0.00		507.000	0.0%
4	Water Purchased \$0.00	DOLLAGED	567,000	100.0%
5 6	TOTAL PRODUCED AND PU TOTAL COST \$0.00	IRCHASED	567,000	
	WATER SOLD			
7	Residential		460,330	
8	Commercial			
9	Industrial			
10	Bulk Loading Stations			
11	Wholesale			
12	Other Sales (explain)	A		
13	TOTAL WA	TER SOLD	460,330	81.2%
14	TOTAL WATER	NOT SOLD	106,670	18.8%
45	BREAKDOWN OF WATER USAGE			
15	Water Treatment Plant			
16	Wastewater Treatment Plant		E7 252	ድብ ብብ
17 18	System Flushing Fire Department Usage		57,353	\$0.00
19	DBP Flushing DBP Maintenance		0	
13	DDI Hushing DDI Manicipano			
20	TOTA	AL USAGE	57,353	
21	WATER LOSS PERCENT	AGE FOR I	RATE PURPOSES	8.7%
00	BREAKDOWN OF WATER LOST			
22	Tank Overflows (other than for DBP maintenance)			
23	Excavation Breaks		0	
24 25	Repaired Line Breaks Unknown Loss		40.247	0.70/
25	OTIKITOWIT LOSS		49,317	8.7%
26	TOTAL WATER NOT SOLD	OR USED	49,317	
27	COST OF WATER NOT SOLE	OR USED	\$0.00	
	WINDLYNOWN I COOK ELOW DATE AND COOT			
28	"UNKNOWN LOSS" FLOW RATE AND COST:	nown Loss"	40 247	
29		nown Loss nown Loss"		
30	Number of Da			
31	"Unknown Loss" per Day (Gallo	•		
32	"Unknown Loss" per Mi			
33	"Unknown Loss" Co			

Water Utility: Cawood Water District/Pathfork PWSID: ky0480565	
For the Month of: May Year: 2018	
1 PRODUCTION COST PER THOUSAND \$0.00	
2 PURCHASE COST PER THOUSAND \$0.00	
GALLONS	
WATER PRODUCED or PURCHASED	-
3 Water Produced \$0.00	0.0%
4 Water Purchased \$0.00 626,000	100.0%
5 TOTAL PRODUCED AND PURCHASED 626,000	
6 TOTAL COST \$0.00	
WATER SOLD	
7 Residential 463,852	
8 Commercial	
9 Industrial	
10 Bulk Loading Stations	
11 Wholesale	
12 Other Sales (explain)	
TOTAL WATER OOLD	74.40/
13 TOTAL WATER SOLD 463,852	74.1%
14 TOTAL WATER NOT SOLD 162,148	25.9%
DDEAKDONALOE WATER HOACE	
BREAKDOWN OF WATER USAGE	
15 Water Treatment Plant	
16 Wastewater Treatment Plant	20.00
17 System Flushing 95,050	\$0.00
18 Fire Department Usage 0 19 DBP Flushing DBP Maintenance 0	
19 DBP Flushing DBP Maintenance 0	
20 TOTAL USAGE 95,050	
21 WATER LOSS PERCENTAGE FOR RATE PURPOSES	10.7%
BREAKDOWN OF WATER LOST	10.1 70
22 Tank Overflows (other than for DBP maintenance)	
23 Excavation Breaks 0	
24 Repaired Line Breaks 0	
25 Unknown Loss 67,098	10.7%
TOTAL WATER NOT SOLD OR USED 67,098	
27 COST OF WATER NOT SOLD OR USED \$0.00	
"UNKNOWN LOSS" FLOW RATE AND COST:	
28 "Unknown Loss" 67,098	
29 % "Unknown Loss" 10.7%	
Number of Days in Period 31	
31 "Unknown Loss" per Day (Gallons per Day) 2,164	
32 "Unknown Loss" per Minute (GPM) 1.50	
33 "Unknown Loss" Cost for Month \$0.00	

Water Utility:		Cawood Water District/Pathfork		PWSID:	KY0483727		
For the M	onth of:	JUNE			Year: [2018	
4	DDODUCT	ION COST DE	DILICUSAND				
1 2		TION COST PER			(insert cost)		
~	TORONAC	L OOOT I ER	IIIOOSAND		(msert cost)		
	WATER	DODUGED				GALLONS	
2	WATER PI	RODUCED or I	PURCHASED		Г		0.00/
3 4	Water Purc				}	674,000	0.0% 100.0%
5	vvator i urt	Silasca	TOTAL PRODUC	ED AND PUI	RCHASED	674,000	100.076
6			TOTAL COST	#VALUE!	COLLAGED		
Principle and the second	WATER SO						
7	Residentia					587,170	
8	Commercia	al					
9	Industrial				-		
10	Bulk Loadii	ng Stations					
11 12	Wholesale	a (avelain)			-		
12	Other Sale	s (explain)			1		
13				TOTAL WAT		587,170	87.1%
14			TOTA	L WATER N	OT SOLD	86,830	12.9%
	BREAKDO	WN OF WATE	RUSAGE				
15		atment Plant	IN COACE		Г		
16		r Treatment Pla	ant		-		
17	System Flu					0	
18		tment Usage				0	
19	DBP Flushi	ing	DBP Ma	intenance		0	
20				TOTAL	L USAGE	0	
21			WATER LOSS			ATE PURPOSES	12.9%
	BREAKDO	OWN OF WATE					,
22	Tank Overf	lows (other tha	n for DBP maintena	ance)	Γ		
23	Excavation	Breaks				0	
24	Repaired L					0	
25	Unknown L	oss				86,830	12.9%
26			TOTAL WATER	NOT SOLD	OR USED	86,830	
27			COST OF WATER	NOT SOLD	OR USED	#VALUE!	
	III IN II CALCAN	N. I. 00011 F1 0	W DATE AND CO.				
20	LONKNOW	N LOSS" FLO	W RATE AND COS		own Loss"	96 920	
28 29					own Loss own Loss"	86,830 12.9%	
30	(inpact days	s of operation durin	g month) Niu	mber of Days		12.970	
31	(maeri days		Jnknown Loss" per				
32		Ç		oss" per Mini			
33				n Loss" Cost		#VALUE!	
50			O I I I I I I	000 0000	.or monar	, , , , , , , , , , , , , , , , , , , ,	

Water Utili	ty: Cawood Water District/Pathfork] PWSID:	ky0480565	
For the Mo	onth of: July	Year:	2018	
roi the mi	Julii oi.	10011	2010	
1	PRODUCTION COST PER THOUSAND		\$0.00	
2	PURCHASE COST PER THOUSAND		\$0.00	
			GALLONS	
	WATER PRODUCED or PURCHASED			
3	Water Produced \$0.00		005.000	0.0%
4	Water Purchased \$0.00 TOTAL PRODUCED AND PU	IDCUACED	685,000	100.0%
5 6	TOTAL PRODUCED AND PO	JRCHASED	685,000	
	WATER SOLD			
7	Residential		455,790	
8	Commercial			
9	Industrial			
10	Bulk Loading Stations			
11 12	Wholesale Other Sales (explain)			
12	Other Sales (explain)			
13	TOTAL WA	TER SOLD	455,790	66.5%
14,	TOTAL WATER	NOT SOLD	229,210	33.5%
	BREAKDOWN OF WATER USAGE	1		
15	Water Treatment Plant			
16	Wastewater Treatment Plant			
17 18	System Flushing Fire Department Usage		0	
19	DBP Flushing DBP Maintenance		0	
13	DDI Hushing		0	
20		AL USAGE	0_	
21	WATER LOSS PERCENT BREAKDOWN OF WATER LOST	AGE FOR F	RATE PURPOSES	33.5%
22	Tank Overflows (other than for DBP maintenance)	1		
23	Excavation Breaks		0	
24	Repaired Line Breaks		132,123	\$0.00
25	Unknown Loss	1	97,087	14.2%
			3.,33.	
26	TOTAL WATER NOT SOLE		229,210	
27	COST OF WATER NOT SOLE	OR USED	\$0.00	
1	WINDLAND LOCK FLOW DATE AND COOT.			
28	"UNKNOWN LOSS" FLOW RATE AND COST:	nown Loss"	97,087	
29		nown Loss"	14.2%	
30	Number of Da			
31	"Unknown Loss" per Day (Gallo		3,132	
32	"Unknown Loss" per Mi		2.17	
33	"Unknown Loss" Co		\$0.00	

Water Utility:		Cawood	Water District/Pathfor	rk	PWSID:	KY0480565	
For the Mo	onth of:	Augus	t		Year:	2018	
1			R THOUSAND		(insert cost)		
2	PURCHAS	E COST PER	THOUSAND		(insert cost)		
						GALLONS	
_		RODUCED or I	PURCHASED				
3	Water Prod						0.0%
4	Water Pure	cnased	TOTAL DECEMENT A	ND DUD	CHACED	726,000	100.0%
5 6			TOTAL PRODUCED A TOTAL COST #VA	ALUE!	CHASED	726,000	
	WATER S						
7	Residentia						
8	Commercia	al				582,408	
9	Industrial	Ot-6:					
10		ng Stations			-		* *
11 12	Wholesale				}		
12	Other Sale	s (explain)					
13					ER SOLD	582,408	80.2%
14			TOTAL W	ATER N	OT SOLD	143,592	19.8%
	BREAKDO	WN OF WATE	RUSAGE				
15		atment Plant			Γ		
16		er Treatment Pla	ant		İ		
17	System Flu				Ì	0	
18		tment Usage			t	0	
19	DBP Flush		DBP Mainten	ance		0	
20			WATER LOSS REF		. USAGE	0 ATE BURDOCEOU	40.00/
21	DDEAKD	OWN OF WATE	WATER LOSS PER	RCENTA	GE FUR R	ATE PURPOSES	19.8%
22			n for DBP maintenance)	`	Г		
23	Excavation		ii loi DDF maintenance,)	}	0	
24	Repaired L				ŀ	0	
25	Unknown L				L	143,592	19.8%
20	Officiowit	.000				140,002	10.070
26			TOTAL WATER NOT	SOLD	OR USED	143,592	
27			COST OF WATER NOT	SOLD	OR USED	#VALUE!	
	"UNKNOW	/N LOSS" FLO	W RATE AND COST:				
28					own Loss"	143,592	
29					own Loss"	19.8%	
30	(insert days	s of operation durin			in Period		
31)"	Jnknown Loss" per Day				
32			"Unknown Loss"			(D./	
33			"Unknown Los	ss" Cost	TOT Wonth	#VALUE!	

Water Util	lity: Cawood Water District/Pathfork PWSID: KY0483727	
For the M	onth of: September Year: 2018	
Line #	ltem Gallons	
1	Water Produced, Purchased and Distributed	
2	Water Produced 0	
3	Water Purchased 762,000	
4	Water Produced & Purchased 762,000	
5		
6	Water Sales	
7	Residential 340,224	
8	Commercial	
9	Industrial 0	
10	Bulk Loading Stations 0	
11	Wholesale 0	
12	Other Sales (explain) 0 0	
13	Total Water Sales 340,224	44.6%
14		
15	Other Water Used	
16	Utility and/or Water Treatment Plant	
17	Wastewater Treatment Plant 0	
18	System Flushing 0	
19	Fire Department Usage 0	
20	Other Usage (explain) DBP Maintenance 0	
21	Total Other Water Used 0	0.0%
22	<u></u>	
23	Water Loss	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks 421,776	
27	Other	
28	Total Line Loss 421,776	55.4%
29		
30 31	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
32	Water Loss Percentage	
33	Unaccounted-For Water (Line 28 Divided by Line 4) 55.4%	

Water Uti	tility: Cawood Water District/Pathfork PWSID: KY0483727							
For the N	Month of: OCTOBER Year: 2018							
Line#	ltem Gallons							
1	Water Produced, Purchased and Distributed							
2	Water Produced 0							
3	Water Purchased 627,000							
4	Water Produced & Purchased 627,000							
5								
6	Water Sales							
7	Residential 541,631							
8	Commercial							
9	Industrial							
10	Bulk Loading Stations 0							
11	Wholesale 0							
12	Other Sales (explain) 0 0							
13	Total Water Sales 541,631	86.4%						
14	1041 114101 04100	00.170						
15	Other Water Used							
16	Utility and/or Water Treatment Plant 0							
17	Wastewater Treatment Plant 0							
18	System Flushing 0							
19	Fire Department Usage 0							
20	Other Usage (explain) DBP Maintenance 0							
		0.0%						
21 22	Total Other Water Used 0							
23	Water Loss							
24	Tank Overflows 0							
25	Line Breaks 0							
26	Line Leaks 85,369							
27	Other							
28	Total Line Loss 85,369	13.6%						
29								
30 31	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4							
32	Water Loss Percentage							
33	Unaccounted-For Water (Line 28 Divided by Line 4) 13.6%							

Water Uti	ity: Cawood Water District/Pathfork PWSID:	KY0480565					
For the M	onth of: November Year:	2018					
Line#	Item	Gallons					
1	Water Produced, Purchased and Distributed						
2	Water Produced 0						
3	Water Purchased 627,000						
4	Water Produced & Purchased	627,000					
5							
6	Water Sales						
7	Residential	0					
8	Commercial	541,631					
9	Industrial	0					
10	Bulk Loading Stations	0					
11	Wholesale	0					
12	Other Sales (explain)0	0					
13	Total Water Sales 541,631						
14	Total Water Gales	541,631 86.4%					
15	Other Water Used						
16	Utility and/or Water Treatment Plant	0					
17	Utility and/or Water Treatment Plant Wastewater Treatment Plant 0						
18	System Flushing	0					
19	Fire Department Usage	0					
20	Other Usage (explain) DBP Maintenance	0					
21	Total Other Water Used	0 0.0%					
22							
23	Water Loss						
24	Tank Overflows	0					
25	Line Breaks	0					
26	Line Leaks	85,369					
27	Other						
28	Total Line Loss	85,369 13.6%					
29 30 31	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4						
32	Water Loss Percentage						
33	33 Unaccounted-For Water (Line 28 Divided by Line 4) 13.6%						

Water Ut	ility: Cawood Water District/Pathfork PWSID:	KY0483727				
For the N	Month of: December Year:	2018				
Line #	<u>Item</u>	Gallons				
1	Water Produced, Purchased and Distributed					
2	Water Produced	0				
3	Water Purchased	659,000				
4	Water Produced & Purchased	659,000				
5						
6	Water Sales					
7	Residential	459,313				
8	Commercial	0				
9	Industrial	0				
10	Bulk Loading Stations	0				
11	Wholesale	0				
12	Other Sales (explain)0	0				
13	Total Water Sales	459,313	69.7%			
14						
15	Other Water Used					
16	Utility and/or Water Treatment Plant					
17	Wastewater Treatment Plant	0				
18	System Flushing	0				
19	Fire Department Usage	0				
20	Other Usage (explain) DBP Maintenance 0					
21	Total Other Water Used	0	0.0%			
22						
23	Water Loss					
24	Tank Overflows	0				
25	Line Breaks	0				
26	Line Leaks	199,687				
27	Other					
28	Total Line Loss	199,687	30.3%			
29						
30 31	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4					
32	Water Loss Percentage					
33	Unaccounted-For Water (Line 28 Divided by Line 4)	30.3%				

Water Uti	lity:	Cawood	Water District/Path	fork	PWSID:	KY0483727	
For the Month of:		FEBRUAI	RY	Σ.	Year: [2019	
1	PRODUCT	ION COST PE	RTHOUSAND		(insert cost)		
2		E COST PER 1			(insert cost)		
						GALLONS	
	WATER P	RODUCED or P	URCHASED				
3	Water Prod						0.0%
4	Water Purc					703,000	100.0%
5 6	1		TOTAL PRODUCED TOTAL COST #	VALUE!	RCHASED	703,000	
	WATER SO				-		7
7	Residential					415,850	
8 9	Commercia	al .			-		
9 10	Industrial Bulk Loadir	ag Stations			-		
11	Wholesale	ig Stations			-		
12	Other Sales	s (explain)					
13			тс	TAL WAT	ER SOLD	415,850	59.2%
14			TOTAL	WATER N	OT SOLD	287,150	40.8%
15		WN OF WATE	RUSAGE		Г		
16	Wastewate	r Treatment Pla	nt				
17	System Flu	_				117,588	#VALUE!
18		ment Usage				0	
19	DBP Flushi	ng	DBP Maint	enance		11,113	#VALUE!
20			WATER LOSS R		USAGE	128,700 ATE PURPOSES	00.50/
21	PDEAKDO	OWN OF WATE		ERCENTA	GE FUR R	ATE PURPUSES	22.5%
22	ANTONE DESCRIPTION OF THE PARTY OF		for DBP maintenan	ce)	Г		
23	Excavation			/	ľ	0	
24	Repaired Li					0	
25	Unknown L	oss			_	158,450	22.5%
26 27		C	TOTAL WATER NO			158,450 #VALUE!	
28	"UNKNOW	N LOSS" FLO	W RATE AND COST		own Loss"	158,450	
29					own Loss"	22.5%	
30	(insert days	of operation during		per of Days	: Los		
31 32		"U	nknown Loss" per Da				
32			"Unknown Los "Unknown L			#VALUE!	
	Œ.					1	

Water Utility:		Cawood	Water District/Pa	athfork	PWSID:	KY0483727	
For the Month of:		JANUAR	Y		Year:	2019	
		Leavest to the second second second	THE PROPERTY OF THE PROPERTY O				
1		TION COST PER			(insert cost)		
2	PURCHAS	SE COST PER T	HOUSAND		(insert cost)		
						GALLONS	
_		RODUCED or P	URCHASED		,		
3	Water Prod						0.0%
4	Water Pure		TOTAL DOODUG	CED AND DIT	DOLLAGED	672,000	100.0%
5 6			TOTAL PRODUC TOTAL COST	#VALUE!	RCHASED	672,000	
	WATER S				ī		
7	Residentia					454,904	
8 9	Commercial Industrial	al					
10		ng Stations					
11	Wholesale						
12	Other Sale						
13				TOTAL WAT	ER SOLD	454,904	67.7%
14			TOT	AL WATER N	IOT SOLD	217,096	32.3%
v	PDEAKDO	WN OF WATER	LICACE				
15			RUSAGE		Г		
16	Water Treatment Plant Wastewater Treatment Plant						
17	System Flushing 0						
18	Fire Department Usage 0						
19	DBP Flush		DBP Ma	aintenance		0	
						_	
20			WATER		L USAGE	0	00.00/
21	DDEAKD	OWN OF WATE		5 PERCENTA	AGE FUR R	ATE PURPOSES	32.3%
22			r LOST for DBP mainter	ance)	Г	i	
23	Excavation	`	nor DDI mamer	iarice)		0	
24	Repaired L				Ì	0	
25	Unknown L					217,096	32.3%
26		_	TOTAL WATER			217,096	
27		C	OST OF WATER	NOT SOLD	OR USED	#VALUE!	
	III INIIZNIONA	ALL OCCUEL OV	V RATE AND CO	OT.			
28	UNKNOW	IN LUSS" FLOV	V RATE AND CO		own Loss"	217,096	
29					own Loss"	32.3%	
30	(insert days	s of operation during	month) Ni	umber of Days	-	02.070	
31	(iii.co.r. day)		nknown Loss" pe		the state of the s		
32				oss" per Min			
33	9		"Unknov	vn Loss" Cost	for Month	#VALUE!	
						ľ	

Cawood Water District Case No. 2019-00041

Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

- 2. Describe in detail the procedure utilized in preparing monthly water use and loss reports, including, but not limited to, the following:
 - a. How the utility calculates water loss, water treatment plant usage, system flushing, and disinfection byproduct flushing.
 - b. Identify by name and job title employees who prepare or assist in the preparation of the reports.
 - c. What is included in the water loss category. Specifically, state whether the utility includes water loss from known leaks and breaks in the water loss category.

Response:

a. Cawood Water District utilizes the form developed by the Kentucky Rural Water Association (KRWA) to prepare and calculate monthly water use and loss reports. First, the district's produced and purchased gallonage, as well as the gallonage sold to customers, are identified for the applicable period.

Next, the gallonage utilized for water treatment plant purposes, system flushing, fire department usage and disinfection byproduct (DBP) maintenance flushing is determined by the district.

Cawood District's water treatment plant usage is based on the number of times the plant's three (3) water treatment filters are backwashed (cleaned and flushed). Each backwash uses approximately 5,000 gallons of water. Generally, backwashes are performed on a regular 5-hour rotation schedule but may be performed more often if circumstances warrant (e.g., if the turbidimeters show a spike in the turbidity, or excessive rainwaters increase dirt and debris content). Cawood District calculates its system flushing and DBP flushing utilizing the KRWA form/software. Cawood District inserts certain variables (size of the pipe, amount of time of discharge, and pressure) and the number of gallons used is then determined.

Finally, water loss from tank overflows, excavation line breaks, and repair line breaks is determined, again by inputting the relevant variables (size of the pipe, amount of time of discharge, and pressure). Based on all these inputs, Cawood

determines its water loss rate for each period.

- b. Cawood Water District's water use and loss reports are prepared by Grant Cooper, General Manager, and Charles Tomlin, Certified Plant Operator and Operations Manager, Class II A and D.
- c. Cawood Water District includes in the water loss category tank overflows, excavation line breaks, and repaired line breaks. Cawood addresses known leaks and breaks immediately upon discovery in most circumstances, and thus the "known" leaks and breaks it includes in the water loss category are generally repaired at the time of reporting.

Item 3
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

- 3. State whether the water utility has completed a water loss detection plan.
 - a. If the answer is yes, provide a copy of the last completed water loss detection plan.
 - b. If the answer is no, explain why a water loss detection plan has not been completed.

Response:

Cawood Water District has established a procedure/plan for water loss detection, a copy of which is attached.

WATER LOSS DETECTION PROCEDURE/PLAN

- 1. TAKE FLOW METER TO LINE ACCESS POINT AND DETERMINE EXISTING FLOW (GPM)
- 2. BEGIN ISOLATING LINES TO DETERMINE IF GPM IS IMPACTED (RECORD NUMBER AND LOCATION OF LINE THAT IS ISOLATED)
- 3. CONTINUE TO REPEAT PROCESS ON THE ENTIRE SECTION
- 4. LISTEN TO METERS IN SECTIONS WHERE LOSS IS OCCURING
- 5. IF NO METER SHOWS SERVICE LINE LEAKS, THEN START WALKING THE LINE TO FIND LOSS
- 6. WHEN LOCATED, REPAIR IMMEDIATELY OR AS SOON AS POSSIBLE

Item 4
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

- 4. State whether the water utility has completed a comprehensive unaccounted-for water loss reduction plan.
 - a. If the answer is yes, provide a copy of the last completed comprehensive unaccounted-for water loss reduction plan.
 - b. If the answer is no, explain why a comprehensive unaccounted-for water loss reduction plan has not been completed.

Response:

a.-b. Cawood Water District investigates and addresses leaks on a daily basis but does not currently maintain a comprehensive unaccounted-for water loss reduction plan. Historically, and due in part to the size and design of Cawood's system (which render difficult the isolation of lines requiring repair or replacement), the District's approach has been to quickly locate and repair line issues. However, in conjunction with training provided by the Kentucky Rural Water Association, the District is in the process of developing a more systematic and comprehensive unaccounted-for water loss reduction plan.

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

5. Describe and provide the results of all water loss reduction projects that the water utility has initiated from January 1, 2015, to the date of the issuance of this Order.

Response:

Cawood Water District has taken numerous efforts to reduce it water loss, including the acquisition of new equipment (listening device, flow meter, metal detector, hand tools, etc.), an increased emphasis on responsiveness and being proactive, and requiring accountability of all employees. Its water loss reduction projects for the past several years have focused on repairing or replacing service lines and meters (please see the District's Response to Item 11) and ensuring line leaks are quickly located and addressed.

As evidence by the monthly Water Loss Reports filed by Cawood, in the Spring of 2018 the District had successfully reduced its unaccounted-for water loss to approximately 15-20%. However, in or around September of 2018, significant water loss was realized in connection with lines that had been installed and/or damaged by state contractors for the Kentucky Department of Highways as part of the rebuilding/redesign of US 421. These issues along US 421 and in Farmers Mill, which resulted in water losses of roughly three million (3,000,000) gallons per month (an increase of ~25-30% from previous months), appear to have been primarily caused by improper backfilling and inadequate protection for the lines.

Cawood has worked diligently, both in conjunction with state authorities and independently, to address the major issues that arose in the last two quarters of 2018. Earlier this month, Cawood successfully repaired leaks along both US 421 and in Farmers Mill and has seen significant improvement in its system. Cawood expects its water loss will be reduced by at least 15% in next month's reporting, and it continues to investigate the relevant lines to locate and repair ongoing leaks. Cawood has had and continues to have discussions with state authorities to ensure the District is property compensated for the issues that have arisen.

Item 6 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

6. Provide a copy of the utility's most recent and updated annual and long-range Capital Improvement Plans.

Response:

Please see attached.

CAPITAL IMPROVEMENT PLAN

2019

ENSURE ALL TANKS ARE INSPECTED AND PERFORMING PROPERLY REPLACE ALL METERS THAT NEED CHANGED AND GET THEM UP TO DATE

2020

REPLACE NON-WORKING VALVES IN CAWOOD AREA
THOROUGHLY EXAMINE PUMP STATIONS AND FIX OR REPLACE AGING COMPONENTS
REPLACE ANY METERS THAT NEED CHANGED OR ARE TEN YEARS OLD

2021

PURCHASE WET TAP (3/4-4 INCH)
REPLACE ANY METERS THAT NEED CHANGED OR ARE TEN YEARS OLD

2022

REPLACE AGING VALVES
REPLACE ANY METERS THAT NEED CHANGED OR ARE TEN YEARS OLD

2023

REPLACE ONE OF THE DODGE TRUCKS TO ENSURE PLANT
MAINTAINS RELIABLE EQUIPMENT
REPLACE ANY METERS THAT NEED CHANGED OR ARE TEN YEARS OLD

Item 7
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

7. Provide the names of the persons or entities responsible for assisting the utility with capital improvement planning, grant application assistance, engineering design, and construction services.

Response:

Cawood Water District is assisted by the following:

- Richard F. Scruggs, CPA, of Harlan, Kentucky, who assists the District with capital planning, accounting, and related governance issues, among other things.
- Kenneth D. Taylor, P.E., Kenvirons, Inc., of Frankfort, Kentucky, who assists the District with engineering design and system planning issues, among other things.
- Cumberland Valley Area Development District, which assists the District with line mapping, system improvement planning, and other miscellaneous issues.

Item 8
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

8. Provide a copy of the utility's preventative maintenance program for the plant, pump, and storage facilities.

Response:

Please see attached.

PREVENTATIVE MAINTENANCE PROGRAM

SOURCE OF SUPPY

INTAKE ANNUALLY
WELL MOTOR MONTHLY
WELL STRUCTURE MONTHLY
WELL ELECTRIC POWER WIRING AND CONTROLS MONTHLY

TREATMENT / PURIFICATION

SEDIMENTATION BASINE

FILTERS

CLEARWELL

CHEMICAL FEED EQUIPMENT

BUILDINGS

SEMI ANNUALLY

MONTHLY

DAILY

ANNUALLY

STORAGE AND DISTRIBUTION

SEMI ANNUALLY PUMPING EQUIPMENT **SEMI ANNUALLY** MOTORS ELECTRICAL POWER WIRING AND CONTROLS ANNUALLY WATER STORAGE TANKS **SEMI ANNUALLY HYDRANTS** ANNUALLY **MAINS SEMI ANNUALLY VALVES MONTHLY** METERS MASTER METERS **ANNUALLY** MASTER METER CALABRATION DAILY LEAK DETECTION

CONSTRUCTION EQUIPMENT

BACKHOE DAILY

VEHICLES

D#1 DAILY D#2 DAILY

VALVES AND BLOWOFF ASSEMBLY

VALVES SEMI ANNUALLY BLOW OFF ASSEMBLY SEMI ANNUALLY

Item 9
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

9. State whether the water utility has assigned specific personnel the responsibility to detect and fix of water line leaks, and if so, state the names and job titles of such personnel and describe the functions and duties of each.

Response:

Multiple Cawood Water District employees are involved with the detection and repair of water line leaks, including:

- Grant Cooper, General Manager, completing the daily tank draw drop, observing and investigating issues of note, and assisting in locating leaks.
- Charles Tomlin, Certified Plant Operator and Operations Manager (Class II A (treatment) and Class II D (distribution), whose functions and duties include supervising and assisting in locating and repairing line leaks.
- Kenny Skidmore, Maintenance and Labor, whose functions and duties include walking lines to locate leaks, listening to meters, and assisting in the repairing of line leaks.
- Roger Stewart, Maintenance Operator, whose functions and duties include operating heavy equipment and assisting in the replacing and repair of line leaks.

Item 10 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

10. State whether leak detection is conducted on a daily basis, and if not, state the reasons why not.

Response:

Cawood Water District conducts line leak detection on a daily basis.

Item 11
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041

Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

11. Provide the number of completed water line leak repairs by category, i.e., mains, service lines, etc. that were completed from September 1, 2018, to the date of the issuance of this Order.

Response:

During the referenced time period, Cawood Water District completed two main line repairs, two branch line repairs, and five service line repairs, as follows:

- BOBS CREEK 8" MAIN LINE
- TEETERSVILLE TANK 8" MAIN LINE
- LENARUE 3" BRANCH LINE
- FARMERS MILL 3" BRANCH LINE
- CAWOOD LONGWAY SERVICE LINE
- CRUMMIES SERVICE LINE
- TEETERSVILLE SERVICE LINE
- GRAYS KNOB SERVICE LINE
- GRAYS KNOB 2ND STREET SERVICE LINE

Item 12 Page 1 of Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

12. Provide copies of each work order generated to investigate leaks reported by customers of the utility from September 1, 2018, to the date of the issuance of this Order.

Response:

Please see attached.

54 Plant Road • P.O. Box 429

No. 09937

6 C	Cawood, KY 40815		10115	200
	(606) 573 3744		2:15,1	11/1
	CUSTON	MERS ORDER NO.	DATE OF DE	3/18
	ORDER	TAKEN BY	DATÉ PROM	ISED √ □ A.M. □ P.M.
BILL TO	10 p. 6	-	PHONE	
			MECHANIC	
ADDRESS				
CITY			HELPER	
JOB NAM	EAND LOCATION			DAY WORK
DESCRIP	TION OF WORK	~ [.	Z dE	CONTRACT _
	Very lette	D K	THE THE	EXTIA
-				
QUANT:	DESCRIPTION OF MATERIAL USED		PRICE	AMOUNT
	11000	=		
	4855 12	\supset		
	The Saus his ho	M		
	10x loak			
	*			
HOURS	LABOR	AMOUNT	TOTAL MATERIALS	
	MECHANICS 13 18			
	HELPERS , RS @		TOTAL LABOR	
l hereb	y acknowledge the satisfactory tion of the above described work. TOTAL LABOR		TAX	
			1 70701	

REORDER @ J & R PRINTING CO. LOYALL, KY 606/573-9495

CAWOOD WATER DISTRICT

54 Plant Road • P.O. Box 429

Cawood, KY 40815

JOB INVOICE

No. 09545

	(606) 573-3744	CUSTOMERS ORDER NO	. POATE ORDE	REP/101
		ORDER TAKEN BY	DATE FROM	ISED AM.
BILL TO			PHONE	P.M.
ADDRESS			MECHANIC	
CITY			HELPER	
JOB NAME	AND LOCATION			DAY WORK
DESCRIPT	ION OF WORK DEAK CL	+ Me.	1	CONTRACT _ EXTRA
	aurside			
QUANT.	DESCRIPTION OF MATERIA	AL USED	PRICE	AMOUNT
QUALITY.	DESCRIPTION OF MINIERA	AL OCED	TIGEL	
	HENE			
	43430	414		
	NO			
		CW		
	\	<u> </u>		
				
HOURS	LABOR	AMOUNT	TOTAL MATERIALS	
	MECHANICS @		TOTAL	
	HELPERS @		TOTAL LABOR	
I hereby completic	acknowledge the satisfactory on of the above described work.	AL LABOR	TAX	
SIGNATURE		DATE COMPLETED	TOTAL	



CAWOOD WATER DISTRICT

54 Plant Road • P.O. Box 429 Cawood, KY 40815 No. 09610

	(606) 5/3-3/4	4 Cus	STOMERS ORDER NO.	ORDE	#P X
		OR	DER TAKEN BY	DATE PROM	ISED A.M
BILL TO				PHONE	
ADDRESS				MECHANIC	
CITY			18/11	HELPER	
***	AND LOCATION		i		DAY WORK
DESCRIPT	ION OF WORK DAK IN	No.	had		EXTRA
0	CHS Me	Mh	t		
QUANT.	DESCRIPTION OF MA	TERIAL US	ED	PRICE	AMOUNT
·					
·					

	Ground In				
· · · · · · · · · · · · · · · · · · ·					
	·				
HOURS	LABOR MECHANICS > 0		AMOUNT	TOTAL MATERIALS	
	HELPERS @			TOTAL LABOR	-
				2.33.1	
	acknowledge the satisfactory on of the above described work.	TOTAL LAB		TAX	
SIGNATURE			DATE COMPLETED	TOTAL	

No. 09528

9

CAWOOD WATER DISTRICT

54 Plant Road • P.O. Box 429 Cawood, KY 40815

(606) 572 2	(606) 573-3744 CUSTOMERS ORDER NO. DATE ORDE		1 _			
(000) 3/3-3			DATEORDE			
		ORDER 1	TAKEN BY	DATE PROM	IISED/A.M.	
BILL TO.				PHONE		
ADDRESS				MECHANIC		
CITY				HELPER		
JOB NAME AND LOCATION	~ 40	42		10	DAY WORK	
DESCRIPTION OF WORK	$\supset ()$	0_			CONTRACT _	
DESCRIPTION OF WORK				0	EXTRA	
Llax (FX	M	ett	26		
Our sid	Q	1				
QUANT. DESCRIPTION OF	MATERIA	L USED		PRICE	AMOUNT	
	1 -	7-7-	70	-		
1 701	4-	12	$\Rightarrow \leftarrow$			
	-					
			<u> </u>			
- LCAN	J~	OW	5,00	,		
No	No To Riply Cl					
New SM	1	P	7 ,	7/6/		
- CA SM		7,	150	100	$\overline{}$	
3						
HOURS LABOR			AMOUNT	TOTAL MATERIALS		
MECHANICS @				TOTAL		
HELPERS @				TOTAL LABOR		
I hereby acknowledge the satisfactory	T			TAX		
completion of the above described work. SIGNATURE	TOTA	L LABOR	COMPLETED	TOTAL		
		,	/ /			

REORDER @ J & R PRINTING CO. LOYALL, KY 606/573-9495

CAWOOD WATER DISTRICT

54 Plant Road • P.O. Box 429 Cawood, KY 40815

No. 09875

*	(606) 573-3744	CUSTOMERS ORDER NO	. DATE ORDER	9/19
		ORDER TAKEN BY	DATEPROM	SED A.M.
BILL TO			PHONE	
ADDRESS			MECHANIC	
CITY			HELPER	
JOB NAME	AND LOCATION	··	1	DAY WORK
DESCRIPT	ION OF WORK LOCK C	+ Mete		CONTRACT _ EXTRA
QUANT.	DESCRIPTION OF MATER	PIAL LISED	PRICE	AMOUNT
QUANT.	DESCRIPTION OF MATER	CIAL USED	PRICE	AMOUNT
	4919 241	10		4
	Fixed			
	least at	Miter		
	101 A 25	, -0, 0		
HOURS	LABOR MECHANICS 25 @ +	AMOUNT	TOTAL MATERIALS	
	HELPERS @		TOTAL LABOR	
	acknowledge the satisfactory on of the above described work.	DTAL LABOR	TAX	
SIGNATURE	A LO PODINTING CO. LOVALL IOV. CONTTO	DATE COMPLETED / /	TOTAL	

No. 09805



CAWOOD WATER DISTRICT

54 Plant Road • P.O. Box 429 Cawood, KY 40815

(606) 573-3744 CUSTOMERS ORDER NO. ORDER TAKEN BY PHONE BILL TO MECHANIC ADDRESS HELPER ☐ DAY WORK JOB NAME AND LOCATION ☐ CONTRACT DESCRIPTION OF WORK EXTRA QUANT. PRICE DESCRIPTION OF MATERIAL USED AMOUNT AMOUNT HOURS LABOR MECHANICS I hereby acknowledge the satisfactory completion of the above described work. TAX TOTAL LABOR 9ATE COMPLETED SIGNATURE

REORDER @ J & R PRINTING CO. LOYALL, KY 606/573-9495

Item 13
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

13. Does the utility have a policy or operating procedure in place that addresses the process and the length of time it should take for the utility to fix a known or reported leaking water line? If yes, provide a copy of the policy or operating procedure.

Response:

Cawood Water District has established a procedure for addressing known or reported leaking water lines, a copy of which is attached. As evidenced by this procedure and the procedure/plan for water loss detection included in response to Item 3, Cawood Water District attempts to address and repair leaks immediately upon discovery.

LINE BREAK PROCEDURE

- 1. GET CALL OF LEAK OR FIND LEAK
- 2. GO CHECK TO SEE IF LEAK IS CAWOOD WATER
- 3. GET PARTS AND EQUIPMENT TO FIX LEAK
- 4. GO AND START WORK ON LEAK UNTIL IT IS FIXED
- 5. IF NEEDED, BRING IN SECOND SHIFT TO WORK ON LEAK UNTIL FINISHED
- 6. FIX ALL SUROUNDINGS BACK TO THE WAY THEY WERE WHEN YOU STARTED
- 7. PUT UP ALL TOOLS AND EQUIPMENT TO BE READY FOR NEXT TIME

Item 14
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

14. Provide a general asset ledger listing identifying all new equipment purchased by the utility from January 1, 2018, to the date of the issuance of this Order used in water loss reduction efforts (e.g., listening devices, flow meters, metal detectors, hand tools, etc.).

Response:

Cawood Water District purchased the following equipment during the referenced timeframe for use in water loss reduction efforts:

- Rock Boss rock cutter
- Battery powered lights
- Battery powered saw for cutting pipe
- Jackhammer
- Flow meter
- Metal detector

Item 15
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

15. Provide the type of training and the total amount of time the utility's personnel have received for leak detection and repairs since January 1, 2015, to the date of the issuance of this Order. List the personnel and dates of training.

Response:

During the week of April 1, 2019, experts from the Kentucky Rural Water Association joined Cawood Water District's personnel to conduct intensive leak detection and repair training, including new or refreshed training using water flow meters, metal detectors, and listening devices. The following employees took part in this training: Grant Cooper, Charles Tomlin, Roger Stewart, Kenny Skidmore, Caleb Jones, and Daniel Osburne. Additionally, Charles Tomlin and two persons now formerly-employed by the District undertook leak detection training through the Kentucky Rural Water Association in 2018, and Charles Tomlin (Certified Plant Operator and Operations Manager, Class II A and D) regularly conducts hands-on training in numerous aspects of operations and distribution. At this time, additional training records have not yet been located but will be provided by supplemental filing if found.

Item 16
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

16. Does the utility have a policy to identify errors that result in missed customer billings or under billings of customer accounts? If so, provide a copy of the policy.

Response:

Cawood Water District reads each customer's meter each month and those readings are presented to the District's office personnel for billing purposes. If a recorded reading appears abnormal, the District will re-read the relevant meter and will generally do so before the bill for that month is issued. In the unusual event that a customer is not billed or is underbilled for a month, the District obtains a proper reading and issues a bill as soon as possible.

Item 17
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

17. If the utility produces and treats water for its distribution system, provide the date that the utility's water treatment plant meter was last tested and state how frequently the utility's water treatment plant meter is tested. Provide a copy of the most recent meter test results.

Response:

Cawood Water District's water treatment plant meter was last tested in April 24, 2018 and is tested annually (and thus is scheduled to be tested again this month). A copy of the most recent meter test results is attached.



The C.I.Thornburg Co., Inc. YOUR FIRST CHOICE IN WATER AND WASTEWATER DISTRIBUTOR

740 Enterprise Drive Lexington, KY 40511 1-800-274-0852

FIELD SERVICE REPORT

Date: 4/24/201	8_			Sheet:	1	of	1
				Customer	P.O. #		
Customer: Cawood,	Ky.	_		Job Site:	Cawood W	TP	
		_					
Assigned Technician	Michael Shipley	<u></u>		Contact	Ronnie		
Serv.Call X	Billable	Warranty		Phone	606-573-37	744	
	Other - Describe Be	elow		Fax			
		Calibratio	on Pono	E-mail			
Meter Type :	McCrometer	<u>Calibratio</u> —	on Repor	Meter Loca	ation :	WTP	
Measuring Device:	Clamp on transduce	rs 10" PVC		Maximum F	low Range:	0 - 1000 GPM	
Calibration Device U	Jsed: Siemens	Sitrans F		Temp. Cor	npensation	Provided:	na
Verification Procedu	ura						
verification Frocedi	ur c						
Manual Instantaneo	_		306		GPM	<u> </u>	
Meter Instantaneous	s Reading :		310	•	GPM	_	
Manual Instantaneo	us Reading :		308		GPM		
Meters Instantaneou	_		309		GPM	- -	
Manual Instantaneo	us Reading :		308		GPM		
Meters Instantaneou	us Reading :		308	·	GPM	<u> </u>	
Manual Instantaneo Meters Instantaneo						<u> </u>	
•	ading To match Manu nstantaneous Measur		ous Readii	ng ,Using N	lanufactures	s Calibration Fu	nction
Totalization Provide							
Meters Output Sign		a					
Recording Device U	lsed: none						
Problems / Parts Re	equired:						
Service Technician	Míchael Shíp	New	Hours		Motor Col I	Equip charge	
Service rechnician	minue srup	wy	nours		wieter Cal. I —	Equip charge	
I certifiy the above v	work has been comple	eted to my sat	isfaction :				

Item 18
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

18. Provide the dates on which the utility's master meters were last tested and the results of the tests.

Response:

Cawood Water District's most-recent master meter test results are provided in response to Item 17. Additional meter testing and calibration is scheduled, the results of which can be provided by supplemental filing as desired.

Item 19
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

19. Provide the utility's procedure and schedule for testing its master meters and customer meters.

Response:

Cawood Water District's utilizes The C.I. Thornburg Co., Inc. to conduct its master meter testing (e.g., please see test results provided in response to Item 17). Cawood's residential/customer meters are generally replaced rather than tested due to relative costs. Cawood Water District's tests its meters in accordance with the following schedule:

Type of Meter	Testing Frequency
Master Meters	At least annually
Meters 4" and up	At least annually
Meters 3"	At least every 2 years
Meters 2", 1.5", and 1.25"	At least every 4 years
Meters 3/4" - 5/8"	At least every 10 years (replaced)

Item 20 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

20. State the number of meters that have been replaced by the utility from January 1, 2018, to the date of the issuance of this Order.

Response:

Cawood Water District has replaced 318 residential meters during the referenced time period.

Item 21 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

21. Provide the type of metering equipment, including brands and model numbers, the utility uses.

Response:

Cawood Water District's metering equipment includes the following brands and model numbers:

Brand	<u>Model</u>
RG3	PD-07 AWWA C700
McCrometer	FC101-00-M
Sensus	SR II
Badger	Model 25

Item 22 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

22. State whether the utility utilizes supervisory control and data acquisition (SCADA) technology within its system.

Response:

Cawood Water District does use SCADA technology within its system.

Item 23 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

23. State whether the utility utilizes telemetry within its system.

Response:

Cawood Water District does use telemetry within its system.

Item 24
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

24. State whether all meters within the utility's distribution area are read monthly. If all meters are not read monthly state the reasons why not.

Response:

Cawood Water District reads each of the meters within its system on a monthly basis.

Item 25
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

25. What training is provided to the utility's meter readers?

Response:

Cawood Water District's meter readers are provided internal, hands-on training by the District's certified Class II Distribution personnel, namely Charles Tomlin, to ensure the meters are read and recorded properly. This training occurs both initially and periodically if an issue occurs or a "refresh" is desired.

Item 26
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

26. Does the utility utilize master meter zones in leak detection? If yes, for each of the utility's master meter zones, provide a monthly comparison of the master meter readings to the total customer meter readings for that zone for December 2018 and January 2019.

Response:

Cawood Water District does not utilize master meter zones for leak detections, but instead monitors zones through a portable flow meter.

Item 27
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

27. State whether the utility uses a system-wide hydraulic model to evaluate the pressure zones and flow in the utility's distribution system.

Response:

Cawood Water District and its third-party engineer, Kenneth Taylor of Kenvirons, Inc., utilize a system-wide hydraulic model to evaluate the District's system's pressure zones and flow.

Item 28
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

28. Does the utility manager regularly report the water loss reduction efforts to the water utility's board of commissioners? Provide copies of any written reports, memorandums, letters, emails, or minutes from January 1, 2018, to the date of the issuance of this Order that details the efforts of the utility manager in reducing water loss as reported to the water utility's board of commissioners.

Response:

Yes, Cawood Water District's manager regularly reports to the Board of Commissioners with respect to water loss and water loss reduction efforts, both informally and formally. Please see attached for representative Board of Commissioners Meeting Minutes that reflect these discussions (and please note that the minutes from April's Board of Commissioners Meeting have not yet been approved or finalized).

CAWOOD WATER DISTRICT

MINUTES OF REGULAR MEETING

APRIL 9, 2019

PRESENT: HAROLD SELLERS, TIM ENGLE, TIM RICE, AND HOWARD FARMER, JR.

AABSENT: MIKE THOMAS

OTHERS PRESENT: GRANT COOPER, RICHARD SCRUGGS, AND KEN TAYLOR.

OPENING: MEETING CALLED TO ORDER BY HOWARD FARMER, JR. - QUORUM PRESENT

MINUTES: MINUTES OF THE PREVIOUS MEETING ON MARCH 12, 2019 WERE REVIEWED: MOTION BY HAROLD SELLER, SECONDED BY TIM RICE TO APPORVE THE MINUTES AS PREPARED. ALL MEMBERS VOTED FOR APPROVAL OF MINUTES.

INVOICES: INVOICES WERE REVIEWED. ON A MOTION BY HAROLD SELLERS TO APPORVE AND PAY INVOICES PRESENTED, AND SECONDED BY TIM ENGLE, WITH ALL MEMBERS VOTING IN FAVOR OF APPROVING AND PAYING INVOICES.

ED LYTTLE PRESENTED HEALTH AND LIFE INSURANCE QUOTES FOR POLICY TO BE RENEWED JUNE 1, 2019. THE WAITING PERIOD PER POLICY IS TO BE CHANGED FROM 90 DAYS TO 60, SAME AS EMPLOYEE POLICY MANUAL. RATES PROVIDED BYCURRENT CARRIER, UNITED HEALTH, WERE MOST FAVORABLE WITH A 10.3% INCREASE IN HEALTH COST AND A 14% INCREASE IN LIFE INSURANCE COST. TIM ENGLE MADE A MOTION TO ACCEPT NEW RATES, AND WAS SECONDED BY HAROLD SELLERS, WITH ALL VOTING IN FAVOR.

HOWARD FARMER PRESENT THE ENGAGEMENT LETTER FROM GOSS AND SAMFORD LAW FIRM FOR THE ISSUE WITH PSC CASE # 2019-00041. TIM RICE MADE A MOTION TO ACCEPT ENGAGEMENT LETTER AS PRESENTED, IT WAS SECONDED BY TIM ENGLE AND APPROVED BY ALL.

ENGAGEMENT LETTER FOR 2018 AUDIT BY KINGSPORT, CPA WAS PRESENTED. HAROLD SELLERS MADE A MOTION TO ACCEPT ENGAGEMENT LETTER AS PRESENTED, WITH SECOND BY TIM ENGLE AND APPROVED BY ALL.

PROJECT UPDATES:

1. PER KEN TAYLOR THE STATUS OF PROJECT TO IMPROVE WATER LINES ON HWY 421 REMAINED UNCHANGED AND SUGGESTED THE BOARD CONTACT DAN MOSELY FOR PROJECT UPDATE.

OLD BUSINESS: WRECKED TRUCK HAS BEEN TAKEN TO CREECH MOTOR FOR REPAIR. PARTS HAVE ARRIVED AND REPAIRS STARTED. SHOULD BE COMPLETED IN NEXT COUPLE OF WEEKS

REPORTABLE PURCHASES: NONE

WATER LOSS REPORT: GRANT PRESENTED REPORT: MARCH WATER LOSS AT 45.3% AND WATER LOSS AT PATHFORK AT 15.8%

OPERATOR'S REPORT:

- 1. HARRY GIBSON COMPLETED WORK ON WATER LEAK.
- 2. KENTUCKY WATER CONDUCTED WATER LEAK TRAINING. TWO WATER LEAKS WERE FIXED NEAR GRAYS KNOB CHURCH. WATER LOSS FOR THESE TWO LEAKS WERE 1,000,000 GALLONS PER MONTH FOR ONE AND 890,000 GALLONS PER MONTH FOR THE OTHER. SINCE THESE THREE LEAKS HAVE BEEN REPAIRED, THE PLANT HAS BEEN ABLE TO SHUT DOWN 4.5 TO 5 HOURS PER DAY.
- 3. METER READERS CONTINUE TO HAVE ISSUES WITH CUSTOMERS' DOGS. GRANT TO SEND LETTER TO THOSE CUSTOMER TO PUT DOGS UP ON METER READING DAY.
- 4. JOEL PHILLIPS WILL DIP PONDS WITH LONG BOOM. COST TO BE BETWEEN \$3,000 AND \$4,000.

NEW BUSINESS:

KEN TAYLOR TO WRITE UP PLAN FOR USE OF \$75,000 GRANT WITH\$25,000 TO BE SPENT ON
ASBURY PROJECT AND THE REMAINDER TO CLEAN WATER TANKS. GRANT TO SEE HOW MANY
POTENTIAL CUSTOMERS THERE ARE IN ASBURY HOLLOW.

THERE BEING NO FURTHER BUSINESS TO DEWITTEN WHICH WAS SECONDED BY TIM ENGLE. A		MEETING

CAWOOD WATER DISTRICT

MINUTES OF REGULAR MEETING

MARCH 12, 2019

PRESENT: HAROLD SELLERS, TIM ENGLE, TIM RICE, MIKE THOMAS, AND HOWARD FARMER, JR.

OTHERS PRESENT: GRANT COOPER, RICHARD SCRUGGS, AND KEN TAYLOR.

OPENING: MEETING CALLED TO ORDER BY HOWARD FARMER, JR. - QUORUM PRESENT

MINUTES: MINUTES OF THE PREVIOUS MEETING ON FEBRUARY 12, 2019 WERE REVIEWED: MOTION BY MIKE THOMAS, SECONDED BY HAROLD SELLERS TO APPORVE THE MINUTES AS PREPARED. ALL MEMBERS VOTED FOR APPROVAL OF MINUTES.

INVOICES: INVOICES WERE REVIEWED. ON A MOTION BY TIM ENGLE TO APPORVE AND PAY INVOICES PRESENTED, AND SECONDED BY HAROLD SELLERS, WITH ALL MEMBERS VOTING IN FAVOR OF APPROVING AND PAYING INVOICES.

PROJECT UPDATES:

 PER KEN TAYLOR THE STATE HAS APPROVED FUNDING OF \$325,000, HAS BEEN INCREASED TO APPROXIMATELY \$500,000 TO IMPROVE DISTRIBUTION LINES. KEN TAYLOR PRESENTED PLAN FOR THE IMPROVEMENTS, WITH APPROVAL BY BOARD. KEN TO GIVE COPY OF PLANS TO DAN MOSLEY AND TO HIGHWAY DEPARTMENT.

OLD BUSINESS: WRECKED TRUCK HAS BEEN TAKEN TO CREECH MOTOR FOR REPAIR. PARTS SHOULD BE IN FOR THE REPAIR IN NEXT 2 TO 3 WEEKS.

REPORTABLE PURCHASES: NONE

WATER LOSS REPORT: GRANT PRESENTED REPORT

OPERATOR'S REPORT:

- 1. HARRY GIBSON CONTINUES WORK ON WATER LEAK. IF HE WORKS, SHOULD BE COMPLETED IN COUPLE OF DAYS. NO PURCHASE ORDER HAS BEEN ISSUED FOR HIS WORK,
- 2. HAD DIVISION OF WATER INSPECTION: 1. NOT IN COMPLIANCE WITH PLANT OPERATORS-NEED 3 CLASS 2 OPERATIORS AND ONLY HAVE 1. ROGER AND DOUG PLAN TO TAKE CLASS 2 TEST. 2. WATER LOSS DECREASED FROM JANUARY TO FEBRUARY. 3. NEED LAPTOR COMPUTER. BOARD APPROVED PURCHASE OF COMPUTER. 4. METERS TO BEGIN COMING IN NEXT WITH PLANS TO REPLACE 73 METERS NEXT WEEK. 5. ALSO, SENDING PSC MONTHLY REPORT OF METER CHANGES

NEW BUSINESS:

- 1. HOWARD FARMER TO CALL OTIS DOAN TO DISCUSS HARRY GIBSON SITUATION.
- 2. KEN TAYLOR REPORTED NO CHANGE IN ASBURY HOLLOW PROJECT
- 3. DISCUSSED PSC CASE NO 2019-00041 THAT WAS ISSUED ON MARCH 12, 2019
- 4. PLAN SHOULD BE DEVELOPED FOR ROUTINE PLANT MANAGEMENT, MAYBE A CHART SHOWING MAINTENANCE SCHEDULE

THERE BEING NO FURTHER BUSINESS TO DISCUSS, TIM RICE MADE A MOTION WHICH WAS SECONDED BY MIKE THOMAS TO ADJOURN. ALL VOTED IN FAVOR OF ADJOURNMENT

CAWOOD WATER DISTRICT

MINUTES OF REGULAR MEETING

FEBRUARY 12, 2019

PRESENT: HAROLD SELLERS, TIM ENGLE, TIM RICE, MIKE THOMAS, AND HOWARD FARMER, JR. OTHERS PRESENT: GRANT COOPER, RICHARD SCRUGGS, AND KEN TAYLOR.

OPENING: MEETING CALLED TO ORDER BY HOWARD FARMER, JR. - QUORUM PRESENT

MINUTES: MINUTES OF THE PREVIOUS MEETING ON JANUARY 8, 2019 WERE REVIEWED: MOTION BY MIKE THOMAS, SECONDED BY TIM RICE TO APPORVED THE MINUTES AS PREPARED. ALL MEMBERS VOTED FOR APPROVAL OF MINUTES.

INVOICES: INVOICES WERE REVIEWED. ON A MOTION BY TIM ENGLE TO APPORVE AND PAY INVOICES PRESENTED, AND SECONDED BY MIKE THOMAS, WITH ALL MEMBERS VOTING IN FAVOR OF APPROVING AND PAYING INVOICES.

PROJECT UPDATES:

- TAKE NALLY & HAMILTON OFF OF AGENDA FOR FUTURE MEETINGS.
- 2. PER KEN TAYLOR THE STATE HAS APPROVED FUNDING OF \$325,000 TO IMPROVE DISTRIBUTION LINES. KEN AND GRANT TO FIND STARTING POINT NEAR CHEVROLET. KEN RECOMMENDED TO USE OF PVC PIPE FOR REPLACEMENT PIPE.
- TIM RICE SUGGESTED WHEN A CONTRACTOR PERFORMS WORK THEN SOMEONE FROM
 CAWOOD WATER DISTRICT SHOULD BE PRESENT WHEN CONTRACTOR IS WORKING. HE ALSO
 RECOMMENDED THAT CAWOOD WATER DISTRICT BE NAMED AS ADDITIONAL INSURED ON
 CONTRACTOR'S LIABILITY AND WORKERS COMP POLICIES.

OLD BUSINESS: WRECKED TRUCK HAS BEEN TAKEN TO CREECH MOTOR FOR REPAIR.

REPORTABLE PURCHASES: NONE

WATER LOSS REPORT: GRANT PRESENTED REPORT

OPERATOR'S REPORT:

- 1. GRANT REVIEWED FINDINGS FROM VISIT FROM PSC. PLANT WAS OK AND PONDS NEED TO BE DIPPED. 449 METERS NEED TO BE REPLACED AS SOON AS PRACTICAL. GRANT TO SUBMIT PLAN FOR REPLACEMENT COMPLETION.
- 2. GRANT REPORTED CUSTOMER STEALING WATER AT ATTORNEY. COUNTY ATTORNEY FRED BUSROE TO FILE COMPLAINT.
- 3. WATER LEAK FROM 3" PIPE FIXED AT TEETERSVILLE

4. FOR PERIODS WHEN TAMMY IS ABSENT FROM WORK, GRANT ASKED IF HE COULD FILL IN FOR HER IN HER ABSENCE.

NEW BUSINESS:

- 1. NEW EMPLOYEE HANDBOOK PRESENTED TO EACH BOARD MEMBER
- 2. NEW EMPLOYEES ARE TO BE DRUG TESTED BEFORE BEING HIRED, RANDON DRUG TESTING OF CURRENT EMPLOYEES HAS BEEN PUT IN PLACE. DR DAHAN WILL DO DRUG TESTING

THERE BEING NO FURTHER BUSINESS TO DISCUSS, TIM RICE MADE A MOTION WHICH WAS SECONDED BY MIKE THOMAS TO ADJOURN. ALL VOTED IN FAVOR OF ADJOURNMENT

CAWOOD WATER DISTRICT

MINUTES REGULAR MEETING

January 8, 2019

PRESENT: HAROLD SELLERS, TIM ENGLE, TIM RICE, MIKE THOMAS, HOWARD FARMER JR, GRANT COOPER, CHARLES TOMLIN, TAMMY GOODIN

OPENING: MEETING CALLED TO ORDER BY HOWARD FARMER JR. QUORUM PRESENT

CITIZENS COMMENTS: NONE

MINUTES: OF DECEMBER 11, 2018 AND THE SPECIAL MEETING HELD ON DEC 27, 2018 MEETING REVIEWED. MOTION BY TIM ENGLE, SECONDED BY MIKE THOMAS, TO APPROVE THE MINUTES AS PREPARED. VOTE: HOWARD FARMER JR – YES; HAROLD SELLERS – YES; TIM RICEYES.

INVOICES: INVOICES REVIEWED.MOTION MADE BY TIM ENGLE, SECONDED BY MIKE THOMAS, TO PAY ALL INVOICES PRESENTED. VOTE: HOWARD FARMER JR – YES; TIM RICE- YES; HAROLD SELLERS – YES.

PROJECT UPDATES: NONE.

REPORTABLE PURCHASES:

TAMMY GOODIN – OFFICE COMPUTER

GRANT COOPER: SUBMITTED THE WATER LOSS & REPORTS

PATHFORK – 30.3%

CAWOOD - 49.9%

- MOTION MADE BY TIM RICE FOR GRANT COOPER TO CONTACT HARRY GIBSON ABOUT THE FARMERS MILL PROJECT ON JANUARY 9, 2019 TO INFORM HIM THAT THE FARMERS MILL PROJECT NEEDS TO BE COMPLETED BY JANUARY 18, 2019 OR A NEW CONTACTOR WILL BE BROUGHT IN TO FINISH THE PROJECT. THE BOARD MADE A DECISION THAT IF HARRY GIBSON DID NOT COMPLETE THE PROJECT BY JANUARY 18, 2018, THAT HE WILL NOT BE PAID FOR ANY WORK THAT HAS BEEN DONE AT THE FARMERS MILL LOCATION. SECOND BY TIM ENGLE; VOTE: HOWARD FARMER JR-YES; TIM RICE-YES; HAROLD SELLERS-YES
- DISCUSSION WAS HELD FOR GRANT COOPER (MANAGER) TO HIRE KENNETH SKIDMORE AND CALEB JONES. THE BOARD APPROVED FOR THEM TO BE HIRED AND START WORK ON JANUARY 9, 2019. VOTE: MIKE THOMAS-YES; TIM RICE-YES; HAROLD SELLERS-YES; HOWARD FARMER JR-YES; TIM ENGLE-YES

THERE BEING NO FURTHER BUSINESS, MOTION MADE BY MIKE THOMAS, SECONDED BY TIM RICE, TO ADJOURN. VOTE: TIM ENGLE- YES; HAROLD SELLERS- YES; HOWARD FARMER JR -

YES.

functioned

Harald K Sellen

October 2018 Board Meeting Cawood Water District Members Present: Howard Farmer Tim Engle Harold Sellers Tim Rice Mike Thomas Also Present: Ken Taylor Richard Scruggs

Motion to open:

Tim Engle 1st

Howard Farmer 2nd

All yes

Minutes Approval:

Tim Engle 1st

Mike Thomas 2nd

All yes

Invoice Approval:

Tim Rice 1st

Harold Sellers 2nd

All yes

Project Updates:

Ken Taylor:

- Asbury Hollow
 - o 3 out of the 4 residents want city water
 - Coal Severance monies can be used to pay for tap on fees
 - Plumbing permits must be obtained by resident
 - After discussions board wants to have a meeting with Judge Executive Dan Mosley for discussion of project and coal severance monies
- Booster Pump stations:
 - o Billy Moore Longway Drive, Cawood Hill
 - o Tim Rice Tway Hill
 - o Allen Johnson Ready Mix Road
 - After discussions of these stations board would also like to discuss projects with Judge Mosley

Chlorine Analyzer:

Rebuild old unit - \$3604.40 for parts and labor

New unit - \$4074.00 for unit and labor for install

Mike Thomas 1st

Howard Farmer 2nd

All yes in favor for new unit to be installed

Water loss:

Cawood - 35%

Pathfork - 55%

Richard Scruggs -

Updated board on working with Lana Pace. Work is progressing well and will continue until Lana's retirement at the end of 2018.

Ronnie Williams – Gen. Man. Of C.W.D has turned in letter of resignation and will stay with company until end of 2018 to help train new hire if company so desires.

Motion to adjourn:

Tim Rice 1st

Tim Engle 2nd

All yes

Sept. 2018 Board Mtg. Cawood Water District

Members Present:
Howard Farmer
Harold Sellers
Tim Engle
Mike Thomas – Not Present
Visitors:
Ken Taylor
Richard Scruggs
Terry Sellers
Motion to open:
Harold Sellers 1st
Tim Rice 2 nd
All yes
Project updates:
Ken Taylor:
 Asbury Hollow, no new updates at this time. Fire Station completed and all water samples have returned clean.

- Suggests meetings with M. Calebs (engineer) of Ky. State Hwy. Dept. concerning Hwy. 421 water line project.

Lana Pace:

- Turned in her letter of retirement to the board which will take place on 12/31/2018.

Richard Scruggs:

- Mr. Scruggs is working closely with Lana Pace concerning the transition of Lana's retirement and Richard taking on her duties.
- Water loss reports are as follow:
 - o Cawood -32.9%
 - Pathfork -19.8%

Howard Farmer:

 Will contact Dan Mosley (Judge Executive) concerning a meeting with M. Calebs from Ky. Hwy. Dept.

Motion to Adjourn:

Tim Rice 1st

Tim Engle 2nd

All yes

Hund K

July 2018, Board Meeting, Cawood Water District

Members Present:
Howard Farmer
Harold Sellers
Tim Engle
Tim Rice
Mike Thomas – not present – on vacation
Motion to open:
Tim Rice 1 st
Tim Engle 2 nd
New projects:
Asbury Hollow water line extension – tabled until further investigation
New Trucks:
All in favor to buy new trucks under the fleet program instead of used trucks.

Members want to check into bid process and delivery date.

Tim Rice will email M.D. Goss (attorney) to clear up process before

proceeding.

Minutes and Invoices:

Harold Sellers 1st

Tim Rice 2nd

All yes

Water loss:

Cawood - 16.3%

Pathfork - 12.9%

Tanks to be cleaned:

Discussion on pricing, order of work to be done, and length of time to complete said work

New Business:

No new business

Lana Pace:

Motion was made by Tim Rice, Howard Farmer 2nd, all in favor of:

Requesting a letter of resignation from Lana Pace (financial officer) to be presented to the Cawood Water District Board by August 2018 board meeting, (8/14/18). The resignation will take effect no later than 12/31/2018, but during the time from 8/14/2018 - 12/31/2018, L. Pace will work with and aid in the transition of new hire (to be determined by CWD board).

The period of 8/14/2018 – 12/31/2018 will also include L. Pace relinquishing any and all Cawood Water District property including but not limited to: financial records, ledgers, checking account material, any hardware/software.

Richard Scruggs:

Motion was made by Howard Farmer, Harold Sellers 2nd, to have Mr. Scruggs present at August 2018 board meeting (8/14/2018) to discuss Mr. Scruggs' future involvement with CWD. All in favor. Harold Sellers to contact Mr. Scruggs.

Hundel Tollan

Motion to adjourn:

Tim Rice 1st

Tim Engle 2nd

All in favor

June 2018 Board Meeting – Cawood Water District 6/12/2018

Members Present:	
Howard Farmer	Mike Thomas
Harold Sellers	Tim Rice
Tim Engle	
Motion to open:	
Mike Thomas 1 st	
Tim Engle 2 nd	
All Yes	
Minutes Approval:	
Howard Farmer 1 st	
Mike Thomas 2 nd	
All Yes	
Invoices Approval:	
Tim Engle 1 st	
Tim Rice 2 nd	

All Yes

Project Updates:

Ken Taylor Present - No new updates

Old Business:

PSC proposed merger-

- Tim Rice asked about the 2 questions of stipend and other state utilities that pay a stipend and the raise given to employees to replace stipend, and who will answer these 2 questions.
- Tim Engle made the motion for Tim Rice to call Mark David Goss and enquire about these 2 questions.
- Mike Thomas 2nd
- All Yes

Test Holes-

- -Ronnie Williams showed the board pictures and notes of the 3 test holes that were dug.
- Tim Rice made motion to email pictures to David Fuson, State Highway Engineer in Manchester, KY.
 - Mike Thomas 2nd
 - All Yes

Reportable Purchases -

None

Operator's Report -

- Water Loss – Cawood – 16.3%

Pathfork - 10.7%

- Dalton Baker has been moved from Part Time to Full Time and will be raised from minimum wage to \$8.00/hour.
 - Tim Engle 1st
 - Mike Thomas 2nd
 - All yes

New Business -

- Asbury Hollow water line extension-
 - County needs a cost estimate
 - o Ken Taylor will do when needed
 - Ronnie Williams will speak with County to see if all residents (10) have been contacted and if all families are interested in the water connection
- Question was raised about Tammy Goodin's (clerk) check that has a \$38.00 Miscellaneous payment on it

 Harold Sellers questioned the checks for Richard Scruggs of \$7,200.00 and \$4,750.00 for Darrell Callebs for 50% of services

Motion to Adjourn:

- Harold Sellers 1st
- Howard Farmer 2nd
- All Yes

Timp the

Ellen

Item 29
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

29. For the period from January 1, 2015, to the date of the issuance of this Order, discuss whether the water utility's board of commissioners has placed any deadlines or target dates on the utility for achieving a reduction in the amount of water loss.

Response:

Cawood Water District's Board of Commissioners has not identified specific deadlines or target dates to achieve a reduction in the District's water loss. However, water loss and the District's attempts to mitigate such loss are regularly discussed at Board meetings, and the District continues to pursue ongoing efforts to limit water loss as much as possible.

Item 30 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

30. Provide a list of the utility management's five most critical projects, listed in order of priority, notwithstanding the opinions of the county judge/executive nor the opinions of the water district board of commissioners.

Response:

Please see below:

- a. Install water flow meter pits to section off system and better locate water loss;
- b. Address issues with water line installed by state contractor along us-421;
- c. Work on and replace valves that are not working properly;
- d. Work on replacing and getting up to date on all meters; and
- e. Work on getting all maintenance up to date and ensuring scheduled maintenance is performed.

Item 31 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

31. Provide the total salary of the general manager/superintendent of the water utility for calendar years 2017 and 2018.

Response:

The General Manager's salary for 2017 and 2018 was \$41,000.00.

Item 32 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

32. Provide a copy of the most recent signed employment contract between the general manager/superintendent and the utility.

Response:

Cawood Water District and its general manager have not entered into such an employment contract.

Item 33
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

33. State the average age, with the high and low ages, of the utility's distribution mains.

Response:

The average age of Cawood Water District's distribution mains is approximately 20 years. The oldest distribution main is approximately 29 years and its most-recently installed distribution main is approximately 10 years.

Item 34
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

34. "Service connection," as defined by 807 KAR 5:066(6), means the line from the main to the customer's point of service, and shall include the pipefittings and valves necessary to make the connection. State the average age of the utility's service connections.

Response:

The average age of Cawood Water District's service connections is approximately 8 years.

Item 35
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

35. Has the utility mapped the entire distribution area for service connections to include mapping of its system, and identifying parts of its system with repeated breaks?

Response:

No, Cawood Water District has not mapped its full system for service connections but does maintain detailed drawings of much of its system and has identified parts of its system with repeated breaks or related issues.

Item 36
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

36. Provide a copy of the utility's policy for dealing with apparent theft of water.

Response:

Cawood Water District takes the theft of water seriously; when an apparent theft of water is discovered, pictures are taken and any other evidence or devices used in the theft are recovered. Attempts are then made to determine who may be responsible (owner or renter, typically), and all information is gathered and presented to the County Attorney's Office for criminal prosecution.

Item 37
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

- 37. Provide documentation of any request by the utility from January 1, 2017, to the date of the issuance of this Order to the county attorney or commonwealth attorney's office for the prosecution of any person for the theft of water.
 - a. State whether the utility provided information related to the request for prosecution to the county attorney or commonwealth attorney's office for this time frame.
 - b. If the response to Item 37a. above is confirmed, state to which office the utility provided the information, whether any action was taken on behalf of the utility to prosecute any person for theft of water, and provide copies of the documentation and correspondence related to the prosecution.

Response:

a.-b. Cawood Water District has provided information to the Harlan County Attorney's Office to assist in the prosecution of water theft during the relevant timeframe; please see attached for information and documentation sent during late February, 2019. Typically, the County Attorney's Office will act on Cawood's information, initiate a legal proceeding, serve the relevant parties, and obtain relief for the District. To Cawood's knowledge, action has not yet been taken on the information it most-recently provided.

CAWOOD WATER DISTRICT



Me and Charles was reading meters on January 24,2019 when we got to Morris lane in upper Elcomb at the found a meter that should have been lock. Someone had cut the ears that lock the meter off and turned it on. We proceeded to call the office with meter number and location of meter and see if it should stay off, when we got conformation that it should be off we proceeded to take the meter off.

Went back to on February, 24 2019 to check on lines and box where we took meter out. Home renter had found old PRV in another meter box and straight piped the water in doing so the broke the welding on the setter and made it start leaking. I took pictures and removed the PRV from the box.

Cawood Water District confirmed with the land owner resides at Morris lane.

Below is the total lose and past due bill

PAST BILL \$325.67

31,752 GALLONS WATER \$260.70

LOCK \$10.00

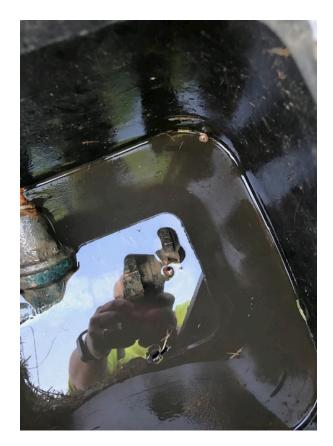
REPLACE SETTER \$320.00

TOTAL LOST \$916.37









Item 38
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

38. Provide the utility's policy for determining whether a leak adjustment to a customer's account is warranted and identify the person(s) that approve leak adjustments.

Response:

Cawood Water District determines whether a leak adjustment is appropriate on a case-by-case basis. First, Cawood identifies the leak and determines whether it is/was on the customer side or the District's side of the meter. If the leak was on the customers side and has been repaired, Cawood requires customers to provide receipts to verify that there was a leak repaired on their side of the meter; Cawood will generally recognize a reasonable adjustment once every twelve months, depending on the circumstances, as set forth in its Tariff. The responsible persons to sign-off on a leak adjustment are Grant Cooper, General Manager, and Tammy Goodin, Office Clerk.

Item 39
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

39. State whether the utility's tariff permits the utility to adjust late charges when making a leak adjustment.

Response:

Cawood Water District's tariff is not explicit with respect to this issue, but adjustment of late charges has occurred when a customer's bill is adjusted due to leak or similar issue.

Item 40 Page 1 of 1 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

40. Provide a copy of the utility's most recent Leak Adjustment Worksheet that was used by the utility and explain what software is being used by the utility to generate the Leak Adjustment Worksheet. If the utility is using Microsoft Excel to generate the Leak Adjustment Worksheet, then provide a copy of the most recent Leak Adjustment Worksheet used by the utility in electronic format with all rows unprotected and all formulas intact.

Response:

Cawood Water District has uploaded its Leak Adjustment Worksheet, a Microsoft Excel file, as part of its response, and has provided same on a compact disc with its hardcopy submission.

Item 41
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

41. State whether the utility has conducted a comprehensive water audit, and if so, provide a copy of the most recent water audit.

Response:

Cawood Water District has not conducted a comprehensive water audit, due in part to the size and design of Cawood's system (which render difficult the isolation of lines for testing and repair). The District is moving towards a more comprehensive and systematic approach to addressing the management of its system through the repair/installation of additional valves, development and adherence to maintenance schedules, and other actions discussed herein.

Item 42 Page 1 of 2 Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

- 42. Provide a copy of the utility's procedure for monitoring and documenting withdrawals from the utility's distribution system by fire departments. If no document exists, explain the process in detail.
 - a. For each fire department that made a withdrawal from the utility's system from January 1, 2018, to the date of the issuance of this Order, provide a copy of the fire department's estimate of its withdrawal.
 - b. For any instance in which a fire department failed to provide an estimate of withdrawal from January 1, 2018, to the date of the issuance of this Order, state the actions the utility implemented to correct the failure.
 - c. Provide the date on which the utility last imposed a penalty on a fire department for the fire department's failure to submit a quarterly report on its water usage.
 - d. Provide a sample copy of each type of report form that the utility provides to fire departments.
 - e. Provide the fourth quarter of the 2018 fire protection water usage, by month, and describe the formula relied upon, identifying all variables, and all assumptions and workpapers utilized to produce this information.

Response:

When a fire department must make a withdrawal from Cawood Water District's system, the department subsequently provides an estimate of the gallonage withdrawn and it is logged on the District's water loss report under fire department.

- a. The fire department has historically provide its estimates telephonically, which are then input into the Fire Department Tab of the KWRA Microsoft Excel Worksheet utilized by the District. Cawood Water District has uploaded this Worksheet as part of its response and has provided same on a compact disc with its hardcopy submission.
- b. Cawood Water District is not aware of an instance during the referenced timeframe in which a fire department failed to provide an estimate of withdrawal.

- c. Upon information and belief, Cawood Water District has not issued such a penalty.
- d.-e. Attached hereto are the Fire Department Water Usage Report Forms for September 2018 through December 2018. Cawood Water District utilizes the formulas embedded within the Fire Department tab of the KWRA Worksheet that has been electronically provided.

Fire Department - Water Usage Report Form

KRS 278.170(3) 807 KAR 5:095 Section 9

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district ("User") may withdraw water from the utility's water distribution system for the purpose of fighting fires or training firefighters at no charge on the condition that it maintains estimates of the amount of water used for fire protection and training during the calendar month and reports the amount of this water usage to the utility no later than the 15th day of the following calendar month.

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district that withdraws water from the utility's water distribution system for fire protection or training purposes and fails to submit the required report on water usage in a timely manner shall be assessed the cost of this water.

(name of Fire Department)

A non-reporting user's usage shall be presumed to be 0.3 percent of the utility's total water sales for the calendar month.

	(name of Water System)			2018				
		I(name of vvater	System)				20.02	7
						rsion factor	29.83	-
***************************************	T		T		coeff	ficient value	0.95	
Date	Hydrant Location and/or Number	Reason Operated	Total Minutes Operated	Nozzle size (typically 2.5 or 4.5)	Pitot Pressure	GPM	Gallons Flowed	Estimated Flow if Pitot not used
							An extra section with the section of	
					1,000			
THE WAS A CONTRACT OF THE PARTY								
-	*							
							4	
	7000							
35								
-1								*
The second secon								

SEP

Month

Fire Department - Water Usage Report Form

KRS 278.170(3) 807 KAR 5:095 Section 9

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district ("User") may withdraw water from the utility's water distribution system for the purpose of fighting fires or training firefighters at no charge on the condition that it maintains estimates of the amount of water used for fire protection and training during the calendar month and reports the amount of this water usage to the utility no later than the 15th day of the following calendar month.

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district that withdraws water from the utility's water distribution system for fire protection or training purposes and fails to submit the required report on water usage in a timely manner shall be assessed the cost of this water.

(name of Fire Department)

A non-reporting user's usage shall be presumed to be 0.3 percent of the utility's total water sales for the calendar month.

		_				Year	20	2018	
		(name of Water	System)						
		_			unit conversion factor		29.83]	
					coefficient value			1	
			T		1				
				Nozzle				Estimated	
			Total	size				Flow if	
		Reason	Minutes	(typically	Pitot		Gallons	Pitot not	
Date	Hydrant Location and/or Number	Operated	Operated	2.5 or 4.5)	Pressure	GPM	Flowed	used	
100000000000000000000000000000000000000				<u> </u>	7				
								 	
		 							
	<u> </u>	_	_						
								ļ	
				3300			,		
	 	 							
		1							
-,									
		- parameter - parameter -							
					3110				
7.0.0									
		1		1			,	4	

OCT

Month

Fire Department - Water Usage Report Form

KRS 278.170(3) 807 KAR 5:095 Section 9

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district ("User") may withdraw water from the utility's water distribution system for the purpose of fighting fires or training firefighters at no charge on the condition that it maintains estimates of the amount of water used for fire protection and training during the calendar month and reports the amount of this water usage to the utility no later than the 15th day of the following calendar month.

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district that withdraws water from the utility's water distribution system for fire protection or training purposes and fails to submit the required report on water usage in a timely manner shall be assessed the cost of this water.

A non-reporting user's usage shall be presumed to be 0.3 percent of the utility's total water sales for the calendar month.

(name of Fire Department)	Month	NOV
	Year	2018
(name of Water System)		

29.83 unit conversion factor coefficient value 0.95

	coefficient value 0.95							
Date	Hydrant Location and/or Number	Reason Operated	Total Minutes Operated	Nozzle size (typically 2.5 or 4.5)	Pitot Pressure	GPM	Gallons Flowed	Estimated Flow if Pitot not used
	Cawood Church of GOD	fire	45.00	2.5	100	1771	79,702	
11/15/2018	Cawood Fire Station	fire	30.00	2.5	120	1940	58,206	
					1117		unar de la	
R								

Total Gallons for Month 137,908

Fire Department - Water Usage Report Form

KRS 278.170(3) 807 KAR 5:095 Section 9

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district ("User") may withdraw water from the utility's water distribution system for the purpose of fighting fires or training firefighters at no charge on the condition that it maintains estimates of the amount of water used for fire protection and training during the calendar month and reports the amount of this water usage to the utility no later than the 15th day of the following calendar month.

Any city, county, urban-county, charter county, fire protection district, or volunteer fire protection district that withdraws water from the utility's water distribution system for fire protection or training purposes and fails to submit the required report on water usage in a timely manner shall be assessed the cost of this water.

(name of Fire Department)

A non-reporting user's usage shall be presumed to be 0.3 percent of the utility's total water sales for the calendar month.

(name of Water System)						Year	20'	18
unit conversion fac								
					coeff	icient value	29.83 0.95	
		Reason	Total Minutes	Nozzle size (typically	Pitot		Gallons	Estimated Flow if Pitot not
Date	Hydrant Location and/or Number	Operated	Operated	2.5 or 4.5)	Pressure	GPM	Flowed	used
-								
- Indiana								
a constant								
TOTAL PROPERTY OF THE PARTY OF								
The second secon								
NAME OF THE OWNER OWNER OF THE OWNER OWNE								

Month

DEC

Item 43
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

43. Explain how the utility accounts for flushing when determining water loss for its system.

Response:

Cawood Water District calculates its system flushing utilizing the KRWA form/software by inserting certain variables (size of the pipe, amount of time of discharge, and pressure) to determine the number of gallons flushed. The District accounts for system flushing as water used, not water lost, consistent with the relevant Worksheet.

Item 44
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

44. Provide the type of flushing equipment that the utility uses.

Response:

Cawood Water District performs system flushing manually utilizing pipe and turn key and dichlorination tablets.

Item 45
Page 1 of 1
Witness: Grant Cooper

Cawood Water District Case No. 2019-00041 Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019

45. Provide the utility's system flushing records, by month, from January 1, 2018, to the date of the issuance of this Order, and describe the formula relied upon, identifying all variables, and all assumptions and workpapers utilized to produce this information.

Response:

Please see attached.

General Manag	er	RONNit	William >	
Year 2018	4			
Year				CHORINE

	DATE	LOCATION OF HYDRANTS OR BLOW-OFFS	LINE SIZE		APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
	1-17	gray KnoB Br	4	1.2	lonin		RW/DA
			2	1.4	lomin		RU/RU
		لحمو لعصا	2	1.4	10 M-N		RW/BB
		gray KNOB BR	4	1.0	15 mw		Ru
	3-6-18	Day LN	2	2.0	5		Rukw
\int	3-6-18	Hamp DA	2	2.0	10		Rw
/	3-4-18	QUAIIS RD	2	2.0	10		KW
/	3-6-18	DenHAN ST	2	2.0	10		12w
1	3-6-18	FUISH HYDRANT Cawoud	21/2	20	15		Rw
	3-6.8	Fulsh HYDRANT Hill	21/2	30	30		RW
J	3-6-18	hong way	2	2.0	5		R~
	3-6.18	HWY 1137 endoFline	3	1.8	10		Ru
1	3-7-18	Creek 120	3	1.8	20		Pw
/	3-7-18	meda Diz	3	1.8	10		Zw
/	3-1-16	Sawmill Ho	2	1,4	20		PW

General Manager	RONNIE	WILLIAMS	
Year 2018			

DATE	LOCATION OF HYDRANTS OR BLOW-OFFS	LINE	EST G.P.M.	APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
3-7-18	Huy 3001 Couled	4	1.8	15		RW
3-1-18	Brock HO	2	1.8	15		RW
3-7-18	River Side Store	3	1.8	15		PW
3-19-18	QUAIS RD	2	2.0	5		Ru/Ru
3-21-18	Day Breweh	3	1.9	16		RNJ R
3-21-18	Fee De	3	1.9	10		1
3-21-18	LIZDOUT LOOP	3	1.4	10		BBIDA
4-11-18	Hw 987	4	1.5	10		Rulpon
4-11-18	3- Power	2	1.5	30		RULED
4-16-18	674 ST	3	1.7	38		RU/50/10
					,	
			,			

General Mana	ger		
Year	,		

DATE	LOCATION OF HYDRANTS OR BLOW-OFFS	LINE SIZE	EST G.P.M.	APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
\$-20-18	GUISTON	3''	1.2	15m.n		DA
4-25-18	Fedhen	3"	1,21	10 mm		RW BB
4-6-18	Restora HW 987	\$1.	114	30 nm		RU
4-6-18	3- 2005	2	1.3	20 m.~		RW
4-17-18	HWY 987	4	1.4	30 n.~		RW
4-17-18	3-20005	2	1(30 min		120
4-27-18	HWY 3001	4	1.6	30 mm		. Rw
4-16-18	gray KNOB	3	1.5	45 n.~		RW
	674 ST GREY KNOB	3	1.5	45n		RW
	Mary Alire Pungs STATION	4	114	10 m.		PW
	Hwy 2425 FH	2.5	1,4	15 Min		Ru
5.4.18	Vanover LN FA	2.5	1.4	15:n~		Pw
5-1018	APP Chail Acad FH	2.5	1, 3	40 m.		Pa
5-18-18	NOIA ST FH	2.5	1.9	20.N.V		1200

FLUSHING OF LINES Path 506 K CAWOOD WATER DISTRICT

General Manager	
Year	

DATE	OR BLOW-OFFS	LINE	EST G.P.M.	APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
4-20-18	Flat branch No. Pathfork	3"	1,21	20 mins		RW/RW
				2		

General Manager_	RONNie	Williams	
Year 2018			

DATE	LOCATION OF HYDRANTS OR BLOW-OFFS	LINE SIZE	EST G.P.M.	APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
6-1-18	HWY 3001	3	1.3	10nvs		
6-7-18	Allen RD	2	1.3	10min		
6-7-18	Shelter House RD	3	1,3	30 min		
	Powler DR	3	1.3	10 nin		
6-9-18	END OF 1138	3	1.3	10 mm		
	HW 421 FH	2/2	1.3	5 min		
	Sulhur Spring 20	3''	1,3	10 min		
	10 End 07 568	3	1.3	60 min		
	End OF YZI	3	1.3	30 1900		
6-8-18	Sikdnore RD	3	1.3	30 m		
7-5-18	Ful of SGB	3	1.4	60 min		
7-9-18	Tank Cran	3		45 m.m		
	End of 421	3		30 mm		
	Sikdnore RD	3		30 n.~		
			3.	,		

General Manager	
Year	

		-	·		·	
DATE	LOCATION OF HYDRANTS OR BLOW-OFFS	LINE SIZE	EST G.P.M.	APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
7-21-18	skidmore RD	3	S ₃	30		Rw
7-25-18	End OF 421	3		45		lsω
7-27-18	Shetter House 12D	3		60		RW
7-30-18	Shelter House RD	3		60		RW
10 63-10	5					
						,
					*	
					х	

CAWOOD WATER DISTRICT

General Manager Ronnie Williams
Year 2018 - Oct

DATE	LOCATION OF HYDRANTS OR BLOW-OFFS	LINE SIZE	Chl.	APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
10-23-18	Farmers Mill	3in	1.7	10 min	22,800	B.B. R.U
10-29-18	Farmers Mill	3in	1.2	20 min	45,600	8.B R.W C.T
10-25-18	21 2	6 in	2.0	15 min	68,000	C.T.
10-21-18	CRAMS	3	1,6	30	45,624	RW
10-23+18		3	1.3	ذ ا	34,000	RW
10-12-18	MAY ALICE	6	1,9	1.5	137,000	BB CT
10-1718		3	1,6	20	45,00	BBC
10-17-18	P. NE BRANCL	3	2,0	15	34,00	BS CT/BS
10-2518	GRAYS-KNB	3	1,7	10	23,00	BG/BS
16-3-18	BoBS - CROCK	6	200	10	91,00	BB
10-14-18	21-21128	6	1,9	10	91,000	BB-RW
10-31-18	Smith	3	1,6	10	25,00	CT RW
10-20-10	TEETERSULLE	6	1.3	20		BB
10-25-18		6	1,2	15		BB
10-28-18	STILLhouse	8	1.9	15		BB CT

General Manager	Ronnie	Williams
Year Nov 2018		

DATE	LOCATION OF HYDRANTS OR BLOW-OFFS	LINE SIZE	EST G.P.M. Chl.	APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
11-1-18	Howard drive catrons creek	3 in	1.2		34000	B.B. B.S.
11-3-18	Clearwell	6 in	1.8	5 mins	2275 gal	C.T.
11-5-18	Clearwell	6 in	1.8	Smins	2275ga	1 R.W
11-13-18	Little Creek 2425)	34:0	1.4	10 mins	1500	B.B. R.W.
11/2/18	Clearwell Little Creek(2425) Pink BRANCH	3		20 m	45,000	BB
	,					
ı						

General Manager	Ronnie	Williams	
Year December 20	18		

DATE	LOCATION OF HYDRANTS OR BLOW-OFFS	LINE SIZE	EST G.P.M.	APPROX. TIME OF FLUSHING	WATER USED APPROX.	FLUSHED BY
12.8.	Bob's creek	3inch		20 mins		R.W.
12.10	Bob's creek	3: xh		30 mins		3.B. 3.S.
12-10	Cranks creek	binch		20 mins		B.B. C.T.
12/11	LUNG WAY	3)0		cf
12-13	LOVE WAY	3		15		CT RW BB
214	LONG WAY	3		r		BBCT
12-16	LONG WAY	3		23		RW C1
12-17	LUNG WAY	3		30		BB
12-19	,	3		39		BB
1282	HWY 72	6		40		BB
12-22	TEETERSULU	6		10		KM
12-24	ST. LL housie	8		10		BB
12-27	(6		10		BB
12-28		6		8		CT BB

FLUSHING OF LINES CAWOOD WATER DISTRICT

Grant Cooper		
	7	
JANUARY	YEAR	2019

DATE	LOCATION OF HYDRANTS	LINE SIZE	APPROX TIME	FLUSHED BY
2-Jan	FARMERS MILL	3	15	GRANT COOPER
4-Jan	CREEK ROAD	3	10	GRANT COOPER
7-Jan	FARMERS MILL	3	10	GRANT COOPER
7-Jan	FARMERS MILL	3	15	GRANT COOPER
11-Jan	CREEK ROAD	3	15	GRANT COOPER
15-Jan	COURT ST	3	15	GRANT COOPER
16-Jan	HWY 3001	3	10	GRANT COOPER
18-Jan	COUNTY PIKE	3	15	GRANT COOPER
22-Jan	QUALLS ROAD	3	15	GRANT COOPER
24-Jan	FARMERS MILL	3	20	GRANT COOPER
25-Jan	LONGWAY	3	10	GRANT COOPER
29-Jan	QUALLS ROAD	3	20	GRANT COOPER
30-Jan	LONGWAY	3	20	GRANT COOPER
	31			1 100

DBP MAINTENANCE CAWOOD WATER DISTRICT

General Manager	I Manager Grant Cooper JANUARY YEAR		
Month	JANUARY	YEAR	2019

DATE	LOCATION OF TANKS	LINE SIZE	APPROX TIME	FLUSHED BY
4-Jan	CLEARWELL	4	15	GC
8-Jan	GULLSTON	4	20	СТ
15-Jan	TEETERSVILLE	4.5	20	GC
18-Jan	CLEARWELL	4	10	GC
21-Jan	TEETERSVILLE	4	30	GC
23-Jan	GULLSTON	4	35	GC
24-Jan	CLEARWELL	4	20	GC
26-Jan	SMITH	4.5	25	СТ
28-Jan	CRUMMIES	4	20	СТ
30-Jan	SMITH	4.5	35	GC
		1		
		+	ENUMERO DE LA CONTRACTOR DE LA CONTRACTO	
		+		
		+		
		-		
		-		
		-		
		+	and the same of th	
		-		

FLUSHING OF LINES CAWOOD WATER DISTRICT

General Manager	Grant Cooper				
Month	FEB	YEAR	2019		

DATE	LOCATION OF HYDRANTS	LINE SIZE	APPROX TIME	FLUSHED BY
3-Feb	FARMERS MILL	3	10	GC/CT
8-Feb	HWY 3001	3	10	GC/CT
11-Feb	LONGWAY	3	10	GC/CT
11-Feb	QUALLS ROAD	3	5	GC/CT
13-Feb	HWY 568	3	15	GC/CT
16-Feb	HWY 421	3	10	GC/CT
20-Feb	FARMERS MILL	3	20	GC/CT
23-Feb	ELCOMB DR	4.5	15	GC/CT
23-Feb	MORRIS LN	3	15	GC/CT
23-Feb	BRANSON ST	3	10	GC/CT
23-Feb	CORNETT ST	3	10	GC/CT
24-Feb	MAPLE DR	3	15	GC/CT
24-Feb	DEADOW BROOK LN	3	10	GC/CT
24-Feb	COMBS LN	3	20	GC/CT
28-Feb	CREEK ROAD	3	8	GC/CT

FLUSHING OF LINES CAWOOD WATER DISTRICT

General Manager	Grant Cooper			
Month	FEB	YEAR	2019	

DATE	LOCATION ON LINE BREAK	LINE SIZE	TIME FOUND	TIME REPAIRED
21-Feb	TEETERSVILLE MAIN LINE	8"	1:00 AM	1:30 PM
21100	TELIENSVIELE IVIAIIA FIIAE		1.00 AW	1.30 FIVI
		-		
		-		
			400000000000000000000000000000000000000	1
			The second secon	
			The second secon	
			www.	
			A Company of the Comp	

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

ELECTRONIC INVESTIGATION INTO EXCESSIVE WATER LOSS BY KENTUCKY'S JURISDICTIONAL WATER UTILITIES)	Case No. 2019-00041
VERIFICATION OF GRAN	T COO	PER
COMMONWEALTH OF KENTUCKY) COUNTY OF Harlan)		

Grant Cooper, General Manager of Cawood Water District, being duly sworn, states that he has supervised the preparation of the responses of Cawood Water District to the Requests for Information contained in Appendix C to the Commission's Order entered March 12, 2019 in the above-referenced proceeding and that the matters and things set forth in those responses are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

The foregoing Verification was signed, acknowledged and sworn to before me this 11th day of April, 2019, by Grant Cooper.

NOTARY DUBLIC 3-01-2022

TD#596357