

Milburn Water District

Response to Appendix C

1. See Attached Forms

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	799,990
4	TOTAL PRODUCED AND PURCHASED	799,990
5	WATER SALES	
6	WATER SALES	
7	Residential	483,620
8	Commercial	9,900
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales	
13	TOTAL WATER SALES	493,520 61.7%
14	OTHER WATER USED	
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	14,000
17	Wastewater Plant	
18	System Flushing	18,000
19	Fire Department	4,000
20	Other	
21	TOTAL OTHER WATER USED	36,000 4.5%
22	WATER LOSS	
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	270,470
27	Other	
28	TOTAL LINE LOSS	270,470 33.8%
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	33.8%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

Milburn Water District

For the Month of:

February

Year:

2018

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	746,680
4	TOTAL PRODUCED AND PURCHASED	746,680
5		
6	WATER SALES	
7	Residential	455,244
8	Commercial	9,355
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales	
13	TOTAL WATER SALES	464,599 62.2%
14		
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	14,000
17	Wastewater Plant	
18	System Flushing	19,000
19	Fire Department	6,000
20	Other	
21	TOTAL OTHER WATER USED	39,000 5.2%
22		
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	243,081
27	Other	
28	TOTAL LINE LOSS	243,081 32.6%
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	32.6%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	662,520	
4	TOTAL PRODUCED AND PURCHASED	662,520	
5	WATER SALES		
7	Residential	387,527	
8	Commercial	9,095	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	396,622	59.9%
14	OTHER WATER USED		
16	Utility and/or Water Treatment Plant	14,000	
17	Wastewater Plant		
18	System Flushing	18,000	
19	Fire Department	2,000	
20	Other		
21	TOTAL OTHER WATER USED	34,000	5.1%
22	WATER LOSS		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	231,898	
27	Other		
28	TOTAL LINE LOSS	231,898	35.0%
29	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
30			
31	WATER LOSS PERCENTAGE		
32	Unaccounted-For Water (Line 28 divided by Line 4)		35.0%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	813,450	
4	TOTAL PRODUCED AND PURCHASED	813,450	
5	WATER SALES		
7	Residential	392,495	
8	Commercial	8,540	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	401,035	49.3%
14	OTHER WATER USED		
16	Utility and/or Water Treatment Plant	14,000	
17	Wastewater Plant		
18	System Flushing	19,000	
19	Fire Department	10,000	
20	Other		
21	TOTAL OTHER WATER USED	43,000	5.3%
22	WATER LOSS		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	369,415	
27	Other		
28	TOTAL LINE LOSS	369,415	45.4%
29	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
30	WATER LOSS PERCENTAGE		
33	Unaccounted-For Water (Line 28 divided by Line 4)		45.4%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	927,130	
4	TOTAL PRODUCED AND PURCHASED	927,130	
5			
6	WATER SALES		
7	Residential	442,320	
8	Commercial	9,282	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	451,602	48.7%
14			
15	OTHER WATER USED		
16	Utility and/or Water Treatment Plant	14,000	
17	Wastewater Plant		
18	System Flushing	19,000	
19	Fire Department	6,000	
20	Other		
21	TOTAL OTHER WATER USED	39,000	4.2%
22			
23	WATER LOSS		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	436,528	
27	Other		
28	TOTAL LINE LOSS	436,528	47.1%
29			
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
31			
32	WATER LOSS PERCENTAGE		
33	Unaccounted-For Water (Line 28 divided by Line 4)		47.1%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: Milburn Water District

For the Month of: June Year: 2018

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	838,990
4	TOTAL PRODUCED AND PURCHASED	838,990
5		
6	WATER SALES	
7	Residential	555,937
8	Commercial	9,898
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales	
13	TOTAL WATER SALES	565,835 67.4%
14		
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	14,000
17	Wastewater Plant	
18	System Flushing	19,000
19	Fire Department	7,000
20	Other	
21	TOTAL OTHER WATER USED	40,000 4.8%
22		
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	233,155
27	Other	
28	TOTAL LINE LOSS	233,155 27.8%
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	27.8%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: Milburn Water District

For the Month of: July Year: 2018

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	796,320
4	TOTAL PRODUCED AND PURCHASED	796,320
5		
6	WATER SALES	
7	Residential	537,300
8	Commercial	9,650
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales	
13	TOTAL WATER SALES	546,950 68.7%
14		
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	14,000
17	Wastewater Plant	
18	System Flushing	18,000
19	Fire Department	15,000
20	Other	
21	TOTAL OTHER WATER USED	47,000 5.9%
22		
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	202,370
27	Other	
28	TOTAL LINE LOSS	202,370 25.4%
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	25.4%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: Milburn Water District

For the Month of: August Year: 2018

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	861,510
4	TOTAL PRODUCED AND PURCHASED	861,510
5		
6	WATER SALES	
7	Residential	647,080
8	Commercial	10,920
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales	
13	TOTAL WATER SALES	658,000 76.4%
14		
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	14,000
17	Wastewater Plant	
18	System Flushing	19,000
19	Fire Department	12,000
20	Other	
21	TOTAL OTHER WATER USED	45,000 5.2%
22		
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	158,510
27	Other	
28	TOTAL LINE LOSS	158,510 18.4%
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	18.4%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	896,750	
4	TOTAL PRODUCED AND PURCHASED	896,750	
5	WATER SALES		
7	Residential	583,145	
8	Commercial	10,243	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	593,388	66.2%
14	OTHER WATER USED		
16	Utility and/or Water Treatment Plant	14,000	
17	Wastewater Plant		
18	System Flushing	19,000	
19	Fire Department	6,000	
20	Other		
21	TOTAL OTHER WATER USED	39,000	4.3%
22	WATER LOSS		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	264,362	
27	Other		
28	TOTAL LINE LOSS	264,362	29.5%
29			
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
31			
32	WATER LOSS PERCENTAGE		
33	Unaccounted-For Water (Line 28 divided by Line 4)		29.5%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: Milburn Water District

For the Month of: October Year: 2018

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	882,340
4	TOTAL PRODUCED AND PURCHASED	882,340
5		
6	WATER SALES	
7	Residential	482,793
8	Commercial	10,067
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales _____	
13	TOTAL WATER SALES	492,860 55.9%
14		
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	14,000
17	Wastewater Plant	
18	System Flushing	19,000
19	Fire Department	12,000
20	Other _____	
21	TOTAL OTHER WATER USED	45,000 5.1%
22		
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	344,480
27	Other _____	
28	TOTAL LINE LOSS	344,480 39.0%
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	39.0%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: Milburn Water District

For the Month of: November Year: 2018

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	774,080
4	TOTAL PRODUCED AND PURCHASED	774,080
5		
6	WATER SALES	
7	Residential	438,841
8	Commercial	8,200
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales	
13	TOTAL WATER SALES	447,041 57.8%
14		
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	14,000
17	Wastewater Plant	
18	System Flushing	19,000
19	Fire Department	10,000
20	Other	
21	TOTAL OTHER WATER USED	43,000 5.6%
22		
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	284,039
27	Other	
28	TOTAL LINE LOSS	284,039 36.7%
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	36.7%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: Milburn Water District

For the Month of: December Year: 2018

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	
3	Water Purchased	923,930
4	TOTAL PRODUCED AND PURCHASED	923,930
5		
6	WATER SALES	
7	Residential	451,335
8	Commercial	13,970
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales _____	
13	TOTAL WATER SALES	465,305 50.4%
14		
15	OTHER WATER USED	
16	Utility and/or Water Treatment Plant	11,000
17	Wastewater Plant	
18	System Flushing	19,000
19	Fire Department	5,000
20	Other _____	
21	TOTAL OTHER WATER USED	35,000 3.8%
22		
23	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	
26	Line Leaks	423,625
27	Other _____	
28	TOTAL LINE LOSS	423,625 45.9%
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31		
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	45.9%

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	847,310	
4	TOTAL PRODUCED AND PURCHASED	847,310	
5			
6	WATER SALES		
7	Residential	618,756	
8	Commercial	13,536	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	632,292	74.6%
14			
15	OTHER WATER USED		
16	Utility and/or Water Treatment Plant	12,000	
17	Wastewater Plant		
18	System Flushing	17,000	
19	Fire Department	3,000	
20	Other		
21	TOTAL OTHER WATER USED	32,000	3.8%
22			
23	WATER LOSS		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	183,018	
27	Other		
28	TOTAL LINE LOSS	183,018	21.6%
29			
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
31			
32	WATER LOSS PERCENTAGE		
33	Unaccounted-For Water (Line 28 divided by Line 4)	21.6%	

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	906,360	
4	TOTAL PRODUCED AND PURCHASED	906,360	
5	WATER SALES		
7	Residential	495,398	
8	Commercial	14,694	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	510,092	56.3%
14	OTHER WATER USED		
16	Utility and/or Water Treatment Plant	13,000	
17	Wastewater Plant		
18	System Flushing	15,000	
19	Fire Department	3,000	
20	Other		
21	TOTAL OTHER WATER USED	31,000	3.4%
22	WATER LOSS		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	365,268	
27	Other		
28	TOTAL LINE LOSS	365,268	40.3%
29	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
30	WATER LOSS PERCENTAGE		
32	Unaccounted-For Water (Line 28 divided by Line 4)	40.3%	

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility:

For the Month of: Year:

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	810,610	
4	TOTAL PRODUCED AND PURCHASED	810,610	
5	WATER SALES		
7	Residential	369,746	
8	Commercial	12,530	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	382,276	47.2%
14	OTHER WATER USED		
16	Utility and/or Water Treatment Plant	16,000	
17	Wastewater Plant		
18	System Flushing	18,000	
19	Fire Department	5,000	
20	Other		
21	TOTAL OTHER WATER USED	39,000	4.8%
22	WATER LOSS		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	389,334	
27	Other		
28	TOTAL LINE LOSS	389,334	48.0%
29	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
30			
31			
32	WATER LOSS PERCENTAGE		
33	Unaccounted-For Water (Line 28 divided by Line 4)		48.0%

Milburn Water District

Response to Appendix C

2.
 - A. The Operator has a record of all breaks and figures by line size, pressure, size of crack and estimated time of leak or flushed to figure water loss or flush.
 - B. Glynn Goldsmith Operator
 - C. The district tries to repair leaks as soon as they are reported. We only report leaks we have found, flushed, used by fire department or tank over flows.

Milburn Water District

Response to Appendix C

3. Yes See attached form

1. Water Loss Detection Procedures

- A. On a routine basis, as system operations permit, the Operator will check zones during a time when customer usage is minimal. If needed field personnel will go valve-to-valve (and often meter-to-meter) with listening devices to detect abnormal flows without affecting customer service. Personnel will perform leak detection in those areas with the highest known water loss, based on routine data collection and analysis.

- B. Outside consultants such as Kentucky Rural Water Association, contract engineers or industry specialists are utilized as circumstances dictate.

Milburn Water District

Response to Appendix C

4. Yes, Explained in #3

Milburn Water District

Response to Appendix C

5. We have just started our water loss reduction plan this year. We have been in touch with KRWA and they are helping us try to get a control on water leaks.

Milburn Water District

Response to Appendix C

6. Milburn Does not have a Capital improvement plan at this time.

Milburn Water District

Response to Appendix C

7. We do not have an engineering firm.

Milburn Water District

Response to Appendix C

8. See Attached form.

PREVENTATIVE MAINTENANCE PROGRAM

The purpose of Milburn Water District's preventative maintenance program is twofold: 1) to ensure that equipment is properly functioning so that it meets or exceeds its expected service life; and 2) to identify maintenance trends that consume a great deal of the operator's time. This is done to reduce long-term operational costs and improve system reliability. Without a sound preventative maintenance program, labor costs for lost water production time due to unscheduled equipment breakdowns will be incurred, damages to equipment can be much more severe and negative treatment processes and/or regulatory ramifications will be unacceptable to customers and costly to the utility. Therefore, three levels of maintenance activities will be performed. These are predictive, preventive and breakdown maintenance.

Predictive Maintenance

The goal of predictive maintenance is to identify potential equipment failure before a breakdown occurs. This level of maintenance relies upon testing equipment performance and analyzing operational trends. Testing may include such items as oil analysis, to determine optimal oil replacement frequency, infrared analysis, to ensure that electrical connections are sound and that there are no imminent electric failures about to occur and vibration analysis, to ensure that equipment is properly aligned and that bearing wear is identified well before failure occurs.

Preventive Maintenance

The primary goal of preventive maintenance is to prevent the failure of pumps and equipment before it actually occurs. It is designed to preserve and enhance equipment reliability by replacing worn components before they actually fail. Preventive maintenance activities include exercising valves and fire hydrants; performing equipment and tank inspections; partial or complete overhauls at regular specified periods; oil changes; lubrication; etc. In addition, operators can record equipment deterioration so they know to replace or repair worn parts before they cause system failure.

Breakdown Maintenance

This is maintenance that must be performed because of unexpected equipment failure and is the most disruptive and costly type of maintenance. Even under the best preventative maintenance program, some breakdown maintenance will occur. Each of these events provides a learning opportunity to improve upon existing preventative maintenance programs. The operator should evaluate every equipment breakdown situation to determine the cause, and determine what measures could have been taken to prevent the occurrence. The lessons learned should then be added to the preventative maintenance program. Building these written feedback loops into the preventative maintenance program will yield significant returns.

The Superintendent in conjunction with certified operators is responsible for implementing the preventative maintenance program. The water treatment and distribution operators are responsible for performing the maintenance and recordkeeping. Inspection forms and maintenance schedules are located in the Appendices. However a generalized list of maintenance measures follows:

- ✓ *Altitude control valves (ACV) are critical to controlling system hydraulics and maintaining consistent customer service. ACVs should undergo visual and functional inspections and undergo annual maintenance as recommended in the manufacturer manual.*
 1. Monthly visual inspection to locate leaks and external damages;
 2. Quarterly functional inspection including: closing, opening and regulation of the ACV and by-pass; and
 3. Annual maintenance including internal component inspection.

- ✓ *Records will be retained at Curtsinger Duncan Financial Service Offices. These records are to include the following:*
 1. Troubleshooting charts or guides which reference pages in manufacturers' service manual;
 2. *Inventory for each type of equipment to include; numbering system, catalog, nameplate data cards, and maintenance record cards;*
 3. Manufacturers' maintenance schedule for routine service.

- ✓ *Hydrants and valves will be inspected/exercised in concert with flushing program.*

- ✓ *Storage tanks inspected annually by Milburn Water District's staff and professionally inspected every five years. The annual inspection form is in **Appendix E**.*

- ✓ *Line breaks can occur at anytime; therefore parts, materials and sample bottles are on-hand or readily available to repair water line of all sizes. Regulatory compliance and recordkeeping requirements are in **Appendix F**.*

Milburn Water District

Response to Appendix C

9. Glynn Goldsmith is our Operator. He is responsible for all repairs, reading meters, and monthly reports.