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TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION DIVISION OF WATER RESOURCES, WATER SUPPLY SECTION

Total Organic Carbon (TOC) and Enhanced Coagulation Report

1796-5		
ENTRY	PUBLIC WATER SYSTEM NAME AND ADDRESS	MAR 0 6 2024
0 0 0 0 3 6 0 A	Kingston Water Department	111111 0 0 10061
REPORTING PERIOD START DATE END DATE	900 Waterford Place	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Kingston, TN 37763	
TOC and Enhanced Coagulation Calculations		

A Treated Water			B Source Water		С	D	E	Alternative	F	
Sample Date	тос	Magnesium Hardness (as CaCO3)	тос	Alkalinity	Magnesium Hardness (as CaCO3)	Reduction of TOC as a Percent	Required TOC Removal (%)	Column C Divided by Column D	Compliance Criteria Used	
										Sum of
										Column E
										Divided by the
										Number of
										Paired Samples
										Or
										Alternative
										Compliance
										Value
Average										
			Paired Samp	oles		(1-A/B) x 100	(See TOC Removal table on back of form)			Compliance achieved if value

I certify that U.S.E.P.A. approved methods		o dialysis porisitive by	Pace Analytical / ESC		d that this document and all
attachments were prepared by me, or unde	r my direction or supervisi	on. The submitted information	is to the best of my knowledge a	and belief, true, a	ccurate, and complete. I am
aware that there are significant penalties for	or submitting false informat	tion, including the possibility of	fine and imprisonment. As spe	ecified in Tenness	see Code Annotated Section
39-16-702(a)(4), this declaration is made u	nder penalty of perjury.				
PREPARED BY: John M. Poole		865 376-7187 APPROVED	BY: John M. Poole	_DATE: 03/04/24	PHONE: (865) 376-7187
CN - 1198 (Rev. 9-12)		Effective Date: January 2002 (continued on reverse)			RDA 2410

TOC and Enhanced Coagulation Monthly Calculations

Month *	Compliance Value from Column F
Current	
Previous	
3 rd	
4 th	
5 th	
6 th	
7 th	
8 th	
9 th	
10 th	
11 th	
12 th	
Total	
Total divided by 12	

^{*} Current month compliance value, previous month value, and continuing back for previous 12 months.

Has system maintained compliance for the last 12 months? (Total divided by 12 must be greater than or equal to 1.0) Y or N

TOC and Enhanced Coagulation Quarterly Calculations

Quarter *	Compliance Value from Coumn F
Current	
Previous	
3 rd	
4 th	
Total	
Total divided by 4	

Current quarter compliance value, previous quarter value, and continuing back for previous 4 quarters

Has system maintained compliance for the last four quarters? (Total divided by 4 must be greater than or equal to 1.0) A Y or N

Required Percentage of TOC Removal

Source Water TOC (mg/L)	Source Water Alkalinity, mg/L as CaCO3				
	0-60 mg/L	>60-120 mg/L	>120 mg/L *		
>2.0 - 4.0	35.0%	25.0%	15.0%		
>4.0 - 8.0	45.0%	35.0%	25.0%		
>8.0	50.0%	40.0%	30.0%		

^{*} Systems practicing softening must meet the TOC removal requirements in this column.

Monthly Alternative Compliance Criteria **

Subrule	Criteria
.36(9)(c)(2)(i)	Treated or Source water TOC < 2.0 mg/L.
:36(9)(c)(2)(ii)	Softening System removing at least 10 mg/L of magnesium hardness.
.36(9)(c)(2)(iii)	Source water SUVA prior to treatment <= 2.0 L/mg-m.
.36(9)(c)(2)(iv)	Finished water SUVA prior to treatment <= 2.0 L/mg-m.
36(9)(c)(2)(v)	Enhanced Softening which lowers alkalinity below 60 mg/L

[&]quot;Systems meeting at least one of the conditions in paragraph (9)(c)2(i)-(v) may assign a monthly value of 1.0 in lieu of the value calculated in paragraph (9)(c)1.

Annual Alternative Compliance Criteria (1)(2)

Subrule	Criteria
.36(9)(a)(2)(+)	Running annual average of source water TOC < 2.0 mg/L.
.36(9)(a)(2)(ii)	Running annual average of treated water TOC < 2.0 mg/L calculated quarterly.
.36(9) (a)(2)(iii)	Running annual average of source water TOC < 4.0 mg/L calculated quarterly, and;
	Running annual average of source water alkalinity > 60 mg/L. calculated quarterly, and;
	Running annual average of Total Trihalomethanes <= 0.040 mg/L, or,
	Running annual average of Total Haloacetic Acids <= 0.030 mg/L.
.36(9) (a)(2)(iv)	Running annual average of Total Trihalomethanes <= 0.040 mg/L, and.
	Running annual average of Total Haloacetic Acids<= 0.030 mg/L_ and.
	Only chlorine used as a primary disinfectant.
.36(9) (a)(2)(v)	Running annual average of source water SUVA <= 2.0 L/mg-m measured monthly and calculated quarterly.
.35(9) (a)(2)(vi)	Running annual average of treated water SUVA < 2.0 L/mg-m measured monthly and calculated quarterly.
.38(9) (a)(3)(i)	Softening treatment that result in a running annual average of treated water alkalinity < 50 mg/L (as CaCO3) measured monthly, and calculated quarterly as an annual running average.
(II)(E)(a) (9)3E.	Softening treatment that results in removing at least 10 mg/L of magnesium hardness (as CaCO3) measured monthly and calculated quarterly as an annual running average.

Notes

- (1) Systems meeting at least one of the conditions in paragraph (9)(a)2(i)-(iv) are not required to operate with enhanced coagulation.
- (2) Softening systems meeting one of the alternative compliance criteria in paragraph (9)(a)3 are not required to operate with enhanced coagulation.