



Conservation and Water Stewardship

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April 3, 2013

Ms. Diane Sacher, M.Eng., P.Eng.
Director
Water and Waste Department
City of Winnipeg
101-1199 Pacific Avenue
Winnipeg, MB R3E 3S8

Dear Ms. Sacher:

RE: 2012 Annual Audit Report for the City of Winnipeg's Public Water System

Please find enclosed the 2012 Audit Report for the Winnipeg Public Water System (PWS). The Audit is based on the Terms and Conditions of Winnipeg's Operating Licence PWS-09-412A.

The Audit Report is an assessment of water sample results submitted to this office for compliance purposes. If your records conflict with the audit information, or if you have any questions concerning this report, or any other drinking water related issues, please call me at 204-945-2454.

Sincerely,

Melanie Betsill,
Supervisor, Drinking Water Officers

copy: T. Josephson B.Sc., P. Eng., M.B.A, City of Winnipeg
K. Kjartanson, P.Eng., City of Winnipeg
Dr. L. Richards, Medical Officer of Health for the Winnipeg Regional Health Authority
K. Philip, P.Eng., Office of Drinking Water



Conservation and
Water Stewardship
Office of Drinking Water

Public Water System
Annual Audit Report

Reporting
Period:

2012

Date:

April 3, 2013

Water System:

Winnipeg - PWS

Code:

252.00

Owner:

City of Winnipeg

Operating Licence Number:

PWS-09-412A

Water Quality Standards

Percent
Compliance

Corrective
Action Forms

Bacterial

<i>E. coli</i>	Less than one <i>E. coli</i> bacteria detectable per 100mL in all treated water	100%	
Total coliform	Less than one total coliform bacteria detectable per 100mL in all treated water	100%	
<i>E. coli</i>	Less than one <i>E. coli</i> bacteria detectable per 100mL in all distributed water	100%	
Total coliform	Less than one total coliform bacteria detectable per 100mL in all distributed water	100%	3
Comments:	The City of Winnipeg met the bacterial standard for the water samples that were submitted for bacterial analysis for compliance purposes in 2012.		

Disinfection

Chlorine residual	A free chlorine residual of at least 0.5 mg/L in water entering the distribution system following a minimum contact time of 20 minutes	100%	
	A free chlorine residual of at least 0.1 mg/L at all times at any point in the water distribution system	100%	4
Ultra Violet	At least 95% of the volume of water produced per month undergoing UV disinfection within validated conditions	100%	
Comments:			

Physical

Turbidity	Less than or equal to 0.3 NTU in 95% of the measurements in a month of the effluent from each operating particulate filter Not exceed 0.3 NTU for more than 12 consecutive hours of filter operation Not exceed 1.0 NTU for any continuous measurement	100%	
Comments:			

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					2012	April 3, 2013
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Monitoring Requirements		Percent Compliance
Chemical		
Lead (throughout the distribution system)	Less than or equal to 0.01 mg/L	100%
Total trihalomethanes	Less than or equal to 0.10 mg/L as annual average of quarterly samples	100%
Comments:	The annual average of trihalomethane quarterly samples was 0.029 mg/L. Water sample results submitted as per the lead loop monitoring system met the lead standard of 0.01mg/L.	
Bacterial		
Total coliform and <i>E. coli</i>	Weekly sampling program with each set of samples consisting of one raw, two treated, and a minimum of 42 distribution samples	99.87%
	Consecutive sample sets must be separated by at least 5 days	100%
Comments:	Two treated water samples were missed during the week of December 24, 2012	
Disinfection		
Free chlorine (treated water)	Continuous sampling of water downstream of the chlorine contact chamber following a minimum of 20 minutes of chlorine contact time	100%
	A minimum of five confirmatory grab samples per week (separated by at least 24 hours) downstream of the chlorine contact chamber following a minimum of 20 minutes of chlorine contact time	
	A minimum of four confirmatory grab samples per week at the same location is acceptable on weeks containing a statutory holiday	
Free chlorine (distribution system)	At the same times and locations as the required bacteriological distribution system sampling	100%
Total chlorine (treated water)	A minimum of five confirmatory grab samples per week (separated by at least 24 hours) downstream of the chlorine contact chamber following a minimum of 20 minutes of chlorine contact time	100%
	A minimum of four confirmatory grab samples per week at the same location is acceptable on weeks containing a statutory holiday	
Total chlorine (distribution system)	At the same times and location(s) as the required bacteriological distribution system sampling	100%
UVT (UV)	Continuous monitoring at Deacon Booster Pumping Station	100%

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transmittance)		
Flow rate	Continuous monitoring of water entering each UV disinfection unit	100%
UV dose	Continuous monitoring of water entering each UV disinfection unit	100%
UV intensity	Continuous monitoring of water passing by each operating UV lamp	100%
UV lamp status	Continuous monitoring of each UV lamp	100%
Comments:		

Physical

Turbidity	Continuous monitoring of the raw water (water treatment plant) and a minimum of three confirmatory grab samples per week from the same location Continuous monitoring of the effluent from each of the operating particulate filters and a minimum of three confirmatory grab samples per week from the same locations	100%
Comments		

Chemistry

General chemistry (parameter list furnished by the Office of Drinking Water)	One sample set taken on a quarterly basis. One sample set consists of: <ul style="list-style-type: none"> • one raw sample (water treatment plant)and • one treated water sample taken alternately from Branch 1 at McPhillips Station and Branch 2 at Hurst Station 	100%
Trihalomethanes (THMs)	Six preserved distribution system samples taken on a quarterly basis during February May, August, and November, every year	100%
Lead	As per the lead loop monitoring system approved by the Director.	100%
Comments:		

Reporting Requirements

Disinfection	Submit original monthly disinfection (including UV) report forms within seven days after the end of each calendar month	100%
Physical	Submit original monthly turbidity report forms within seven days after the end of each calendar month	100%
Corrective Actions	Submit corrective action report for minor exceedences as described in the most recent version of the Office of Drinking Water “Operational Guidelines for Public and Semi-public Water Systems”, along with the monthly disinfection, or turbidity report form	100%
Emergency	Immediately notify the Office of Drinking Water of any condition that may affect the ability of the water system to produce or deliver safe drinking water including treatment upsets or bypass conditions, contamination of the source water or treated water, a filtration or disinfection system failure, or a distribution system failure	100%
Comments:		

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Other Regulatory Requirements

Engineering Assessment

Due Date	February 28, 2011; however, an extension was granted to July 1, 2011
Date Received	June 30, 2011
Comments:	Your next Engineering Assessment will be due March 1, 2017 and every five years thereafter.

Compliance Plan

Due Date	March 1, 2012
Date Received	February 24, 2012
Comments:	A Statement of Compliance was received February 24, 2012.

Operating Licence Expiry Date

Expiry Date	June 30, 2015
Comments:	Please be advised that you are required to apply for renewal of your operating licence 60 days prior to its expiry

2011 Water System Annual Report

Date Received	April 2, 2012
Comments:	Your 2012 Water System Annual Report is due March 31, 2013

Inspection

System Inspected	n/a
Inspection Letter Sent	n/a
Comments:	No formal inspection occurred in 2012 due to a change in drinking water officers

Enforcement

Comments:	No enforcement action was taken during 2012
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