

Public Water System Annual Report

- 2007 -

Name of the Public Water System: Cartier Regional Water System

Name of the legal owner: Cartier Regional Water Co-op

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Date prepared: March 31, 2008

Dave Pirt
Operations Supt.
Cartier Regional Water System

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Introduction:

The 2007 Annual Report for the Cartier Regional Water System summarizes the Water Utility's ability to produce safe potable water and meet provincial regulations.

1. Description of the Water System:

The Cartier Regional Water System provides potable drinking water to a population of app. 8900 residents. Treated water produced from the Cartier Regional water treatment plant meets all health and aesthetic objectives as stated in the Guidelines for Canadian Drinking Water Quality, with the exception of the level of the THM; bromodichloromethane. This is further discussed in the Office of Drinking Water Annual Audit, which is included in this report as Appendix E.

1.1. Water supply source

The Cartier Regional Water Treatment Plant (WTP) receives surface water from the Assiniboine River.

1.2. Intake structures:

The stainless steel intake structure is specially designed to prevent injury to fish. It is located immediately east of the Baie Ste Paul bridge, & flows through a 400 mm pipe into a concrete wetwell on the south shore of the river. Two submersible pumps are available to pump the raw water through a 300 mm pipeline about 2 kilometers south to the WTP. Raw water can be pumped either to the aerated raw water storage pond, or directly to the WTP raw water wetwell located beneath the water plant. Normal operational strategy is to pump to the storage pond for pre-settling, and pre-treatment (summer season; as required) with potassium permanganate. The pond provides a buffer when river water quality may not be optimal (spring breakup, etc).

1.3. Water treatment process:

The Cartier Regional WTP is a conventional cold lime softening system. A powerful oxidant, potassium permanganate (KMnO_4), can be fed at the river intake, the raw storage pond inlet, & in the treatment plant, or in any combination required. The KMnO_4 breaks down organic substances which contribute to taste & odour problems, & can lead to the formation of chlorinated organic compounds known as trihalomethanes (THM;s).

Raw water flows from the pond into the WTP raw wetwell, into which Powdered Activated Carbon (PAC) is added. The PAC adsorbs organics, again for taste & odour control.

The water is pumped through a magnetic flow meter & a rate control valve, into the reaction zone of the clarifier, where it is rapidly mixed with recirculated sludge & a number of chemicals: lime to increase pH (relative alkalinity), which causes carbonate “hardness” minerals & many other dissolved substances to precipitate out; Caustic soda, added as needed for non-carbonate hardness removal; Coagulants, to bind precipitates & sediment together into a settleable “floc”; & occasionally PAC, again for taste & odour control. The water, sludge & chemicals pass from a rapid to a slow mix zone, & then into the clarification zone, where over a two hour period, clear water rises to the surface & solids settle down below. The clear effluent is collected & conveyed into a recarbonation tank where Carbon Dioxide is bubbled through the water to neutralize the high pH. The water then passes through gravity filters incorporating a 400 mm thick layer of Anthracite (crushed coal) over a 300 mm thick layer of crushed quartz sand. Turbidity is a measure of the clarity of water, & we have online 24 hr. monitoring of our 4 filter cell effluents, & also our treated water going to the distribution system. After filtration, a small dosage of chlorine is added to kill pathogenic organisms (bacteria, viruses, etc.). The free chlorine residual in our treated water entering the distribution system is also monitored continuously. Fluoride is added to a 1 PPM concentration for dental health purposes.

The Cartier Regional water treatment process consists of one treatment train, with provision for expandability to meet future demands.

1.4. Distribution system:

Treated water from the reservoir is pumped throughout the Cartier regional distribution system via two 25 horsepower duty pumps, & a 50 horsepower duty pump. The distribution system is partially looped and has approximate piped length of 580 kilometres. Piping is comprised of a mix of PE & PVC.

1.5. Storage reservoirs:

Cartier Regional WTP: Raw Storage Reservoir Capacity: 60,000 M3

Cartier Regional WTP: Treated Reservoir Capacity: 1400 M3

Headingley Reservoir: Treated Reservoir Capacity: 1100 M3

St. Francois Xavier Reservoir: Treated Reservoir Capacity: 400 M3

1.6. Number of connections, population served and types of water users:

The Cartier regional distribution system is comprised of 2890 service connections (all metered). We serve a population of app. 9600 in 5 different Rural municipalities; the RM of Cartier, RM of Portage la Prairie, RM of St. Francois Xavier, RM of Headingley, & the RM of Grey.

1.7. Classification and Certification:

- Class 3 Water Treatment Facility Classification
- Certification level of operators:
 - Dave Pirt; Level 3 Water Treatment, Level 2 Water Distribution
 - Will Thomas, Level 2 Water Treatment & Water Distribution

2. Disinfection System in Use:

The final step in the treatment of safe water is disinfection. Disinfection is the selective destruction or inactivation of potential disease causing organisms in water. As per the Drinking Water Safety Act the Cartier Regional Water System must ensure that a disinfectant residual of at least:

- 0.5 mg of free chlorine per litre of water is detectable at the point where water enters the distribution system, after a minimum contact time of 20 minutes.
- 0.1 mg of free chlorine per litre of water is detectable at all times at any point in the distribution network.

2.1. Type of disinfection system used:

The Cartier Regional WTP disinfects by adding Chlorine gas to the treated water via a Regal gas chlorinator.

2.2. Equipment redundancy and monitoring requirements:

As required by the Drinking Water Safety Act the Cartier Regional WTP ensures continuous disinfection is maintained at the plant by keeping in stock all spare parts required for the chlorinator. As additional backup, a complete spare chlorinator is also kept at the plant.

Disinfectant residuals are monitored daily at the water treatment plant, and at Headingley & St. Francois Xavier reservoirs. Residuals are also monitored periodically in the distribution system and recorded on the appropriate monitoring forms. Monthly chlorination report forms are sent to the regional Drinking Water Officer at the end of each month.

2.3. Disinfectant residual overall performance / results:

For 2007, the Cartier Regional Water System has met all regulatory requirements in regard to monitoring and reporting disinfection residuals leaving the water treatment plant and in the distribution system.

3. List of Water Quality Standards:

The Province of Manitoba has adopted a number of water quality standards from the Guidelines for Canadian Drinking Water Quality, developed by Health Canada. The parameters are health-based and they express the maximum acceptable concentration for a groundwater supply source. Concentration values in excess constitute a health-related issue and require corrective actions. The 2007 results for the Cartier Regional Water System are summarized in the following table:

Parameter	Standard	Frequency	Test Results
Bacterial; TC & EC **	0 TC, 0 EC	Bi-weekly	100 % passed
Disinfectant Residual	WTP (> 0.5 mg/L)	Daily	100 % compliance
“ “	Distribution (> 0.1 mg/L)	Periodically	100 % compliance
Turbidity	0.30 NTU *	Daily	100 % compliance
Lead	0.01 mg/L	Annual	0.0008 mg/L
Fluoride	1.50 mg/L	“	1.20 mg/L
Arsenic	0.01 mg/L	“	0.0005 mg/L
Iron	0.03 mg/L	“	0.06 mg/L
Nitrate	As Nitrogen; 10 mg/L	“	0.25 mg/L
Uranium	0.02 mg/L	“	<0.0001 mg/L
Trihalomethane (THM) ***	0.100 mg/L	Quarterly	0.087 mg/L

* NTU (Nephelometric turbidity unit)

** Bacterial testing: We test the raw water (untreated surface water), the treated water (leaving the water treatment facility) and the water in the distribution system every two weeks (bi-weekly) for the presence of Total Coliform (TC) and E. coli (EC) bacteria. If these bacteria are present in the water it is an indication that disease causing organisms may also be present.

*** THM: Trihalomethanes are formed when chlorine reacts with naturally occurring organic matter in the water. Studies have shown a link between high levels of THM's and

cancer. For that reason, the province has set a health based standard for THM's of 100 micrograms per litre, or 0.100 mg/L. The THM standard is based on an average of four samples per year. We test THM levels in three locations in the distribution system on a seasonal basis

4. Water System Incidents and Corrective Actions

Incident 1: Major water main break (April 16, 2007)

Failure of clarifier recirculator drive gears occurred in the early morning. Emergency replacement of failed gears with sprockets / chain drive was accomplished in 17 hours. We came within a couple of hours of running the WTP out of stored treated water. The Office of Drinking Water, & all of the RM's were informed early in the process, & kept updated as to the repairs. No loss of service was experienced. This was a huge undertaking that was accomplished with the help of Contec Projects & Encompass. The drive is running very well; much quieter & easier to maintain than the gear drive.

5. Additional records required

As part of Manitoba Health's fluoridation program, water samples are collected on a daily basis from the treated water reservoir and tested on site. Daily fluoride results are recorded and a 14 day composite sample is submitted by-weekly for analysis (See Appendix "D" – 2007 Fluoridation Results). The Cartier Regional WTP strives to maintain a 1.00 mg/L fluoride level. The operating range for fluoride, as identified by Manitoba Health, is 0.80-1.20 mg/L. In 2007, fluoride levels never exceeded the 1.20 mg/L recommended limit.

6. Drinking Water Safety Orders on your System and Actions Taken in Response

In 2007, no Drinking Water Safety Orders were issued for the Cartier Regional Water System.

7. Boil Water Advisories Issued and Actions Taken in Response

In 2007, no Boil Water Advisories were issued for the Cartier Regional Water System.

8. Warnings Issued or Charges Laid on the System in Accordance with The Drinking Water Safety Act:

In accordance with the Drinking Water Safety Act, no warnings or charges were issued for the Cartier Regional Water System in 2007.

9. Major Expenses Incurred

New variable frequency drives were purchased for the 3 duty pumps @ the WTP. Through the PLC software, they vary the RPM of the pumps for a much smoother and consistent pressure, & save on Hydro costs. The app. total cost of the project was \$ 12000.

Replacement of the clarifier gear drive with a sprocket & chain setup was performed when the gears failed. More efficient drive system; less prone to failure, & easier to repair. The app. total cost of the project was \$ 14,000.

Substantial additions were made to our spare parts inventory for critical components, for all sites. The app total cost was \$ 10,000.

A new process control computer was purchased to replace existing computer; now have 2 computers capable of talking to the PLC, alarm functioning, etc. Latest process control software revision installed / Skyweb high speed internet connection to better suit our needs. The app. total cost of this project was \$ 7,500.

We replaced our existing failing / high repair cost unit; utilized to detect any chlorine in the air in the chlorine room @ WTP. The new unit is more accurate and easier to calibrate. The app. project cost was \$ 3500.

10. Future System Expansion and/or Increased Production

The addition of UV disinfection for the Cartier Regional WTP is being looked into. Although we currently produce top quality potable water, & control the production of THM's better than the majority of surface water treatment plants in Manitoba, this would be a tremendous addition to our treatment system. Multiple barriers in the treatment process are crucial in the ongoing production of safe potable drinking water.

A new 6 inch distribution line is being installed in 2008 to service the RM of Rosser. Some small additional lines are also planned in the RM's of Headingley, Portage la Prairie, Cartier, & Grey.

Appendix A; Cartier WTP Bacteriological results

Date	Raw TC / EC	Treated TC / EC	Free Cl ₂ residual	
Jan 3 / 07	109 / 24	0 / 0	1.96 mg/L	
Jan 16 / 07	145 / 22	0 / 0	1.62 mg/L	
Jan 30 / 07	>200 / 29	0 / 0	1.97 mg/L	
Feb 13 / 07	>200 / 36	0 / 0	1.70 mg/L	
Feb 27 / 07	>200 / 25	0 / 0	1.77 mg/L	
Mar 14 / 07	165 / 27	0 / 0	1.98 mg/L	
Mar 27 / 07	165 / 5	0 / 0	1.61 mg/L	
Apr 10 / 07	53 / 3	0 / 0	1.66 mg/L	
Apr 24 / 07	11 / 1	0 / 0	1.93 mg/L	
May 8 / 07	43 / 2	0 / 0	1.66 mg/L	
May 22 / 07	38 / 1	0 / 0	1.73 mg/L	
Jun 6 / 07	>200 / 3	0 / 0	1.50 mg/L	
Jun 19 / 07	130 / 8	0 / 0	1.61 mg/L	
Jul 3 / 07	200 / 29	0 / 0	1.69 mg/L	
Jul 17 / 07	200 / 4	0 / 0	1.53 mg/L	
Jul 31 / 07	>200 / 8	0 / 0	1.48 mg/L	
Aug 14 / 07	>200 / 6	0 / 0	2.00 mg/L	
Aug 22 / 07	>200 / 1	0 / 0	1.56 mg/L	
Aug 28 / 07	165 / 1	0 / 0	1.76 mg/L	
Sep 11 / 07	>200 / 29	0 / 0	1.60 mg/L	
Sep 25 / 07	>200 / 31	0 / 0	1.58 mg/L	
Oct 9 / 07	145 / 16	0 / 0	1.77 mg/L	
Oct 23 / 07	34 / 4	0 / 0	1.62 mg/L	
Nov 6 / 07	24 / 1	0 / 0	2.14 mg/L	
Nov 20 / 07	59 / 2	0 / 0	1.75 mg/L	
Dec 4 / 07	1 / 0	0 / 0	1.77 mg/L	
Dec 18 / 07	25 / 3	0 / 0	1.66 mg/L	

Appendix B; Headingley Reservoir Bacteriological results

Date	Reservoir Inlet	Free Cl2 residual	Reservoir Outlet	Free Cl2 residual
Jan 3 / 07	0 / 0	0.98 mg/L	0 / 0	0.86 mg/L
Jan 16 / 07	0 / 0	1.20 mg/L	0 / 0	1.15 mg/L
Jan 30 / 07	0 / 0	1.26 mg/L	0 / 0	1.01 mg/L
Feb 13 / 07	0 / 0	1.40 mg/L	0 / 0	1.05 mg/L
Feb 27 / 07	0 / 0	1.37 mg/L	0 / 0	0.76 mg/L
Mar 14 / 07	0 / 0	1.31 mg/L	0 / 0	1.07 mg/L
Mar 27 / 07	0 / 0	1.10 mg/L	0 / 0	0.95 mg/L
Apr 10 / 07	0 / 0	1.13 mg/L	0 / 0	0.83 mg/L
Apr 24 / 07	0 / 0	1.35 mg/L	0 / 0	1.30 mg/L
May 8 / 07	0 / 0	1.20 mg/L	0 / 0	1.10 mg/L
May 22 / 07	0 / 0	1.12 mg/L	0 / 0	1.04 mg/L
Jun 6 / 07	0 / 0	1.07 mg/L	0 / 0	0.90 mg/L
Jun 19 / 07	0 / 0	1.03 mg/L	0 / 0	0.91 mg/L
Jul 3 / 07	0 / 0	1.07 mg/L	0 / 0	0.99 mg/L
Jul 17 / 07	0 / 0	0.93 mg/L	0 / 0	0.92 mg/L
Jul 31 / 07	0 / 0	1.21 mg/L	0 / 0	1.27 mg/L
Aug 14 / 07	0 / 0	1.67 mg/L	0 / 0	1.18 mg/L
Aug 22 / 07	0 / 0	1.06 mg/L	0 / 0	0.88 mg/L
Aug 28 / 07	0 / 0	1.12 mg/L	0 / 0	0.96 mg/L
Sep 11 / 07	0 / 0	1.30 mg/L	0 / 0	1.18 mg/L
Sep 25 / 07	0 / 0	1.36 mg/L	0 / 0	1.05 mg/L
Oct 9 / 07	0 / 0	1.03 mg/L	0 / 0	0.88 mg/L
Oct 23 / 07	0 / 0	1.19 mg/L	0 / 0	0.84 mg/L
Nov 6 / 07	0 / 0	0.67 mg/L	0 / 0	1.07 mg/L
Nov 20 / 07	0 / 0	1.36 mg/L	0 / 0	1.11 mg/L
Dec 4 / 07	0 / 0	1.06 mg/L	0 / 0	0.69 mg/L
Dec 18 / 07	0 / 0	0.87 mg/L	0 / 0	0.65 mg/L

Appendix C; St Francois Xavier Reservoir Bacteriological results

Date	Reservoir Inlet	Free Cl2 residual	Reservoir Outlet	Free Cl2 residual
Jan 3 / 07	0 / 0	1.10 mg/L	0 / 0	0.65 mg/L
Jan 16 / 07	0 / 0	1.65 mg/L	0 / 0	1.00 mg/L
Jan 30 / 07	0 / 0	1.18 mg/L	0 / 0	0.78 mg/L
Feb 13 / 07	0 / 0	1.15 mg/L	0 / 0	0.80 mg/L
Feb 27 / 07	0 / 0	1.43 mg/L	0 / 0	0.68 mg/L
Mar 14 / 07	0 / 0	1.31 mg/L	0 / 0	0.83 mg/L
Mar 27 / 07	0 / 0	1.25 mg/L	0 / 0	0.75 mg/L
Apr 10 / 07	0 / 0	1.02 mg/L	0 / 0	0.63 mg/L
Apr 24 / 07	0 / 0	1.38 mg/L	0 / 0	0.88 mg/L
May 8 / 07	0 / 0	1.25 mg/L	0 / 0	1.00 mg/L
May 22 / 07	0 / 0	1.11 mg/L	0 / 0	0.81 mg/L
Jun 6 / 07	0 / 0	1.05 mg/L	0 / 0	0.80 mg/L
Jun 19 / 07	0 / 0	1.05 mg/L	0 / 0	0.67 mg/L
Jul 3 / 07	0 / 0	1.06 mg/L	0 / 0	0.84 mg/L
Jul 17 / 07	0 / 0	0.98 mg/L	0 / 0	0.76 mg/L
Jul 31 / 07	0 / 0	1.17 mg/L	0 / 0	0.95 mg/L
Aug 14 / 07	0 / 0	1.36 mg/L	0 / 0	0.95 mg/L
Aug 22 / 07	0 / 0	1.01 mg/L	0 / 0	0.63 mg/L
Aug 28 / 07	0 / 0	1.02 mg/L	0 / 0	0.77 mg/L
Sep 11 / 07	0 / 0	1.15 mg/L	0 / 0	1.34 mg/L
Sep 25 / 07	0 / 0	0.98 mg/L	0 / 0	0.67 mg/L
Oct 9 / 07	0 / 0	1.04 mg/L	0 / 0	0.68 mg/L
Oct 23 / 07	0 / 0	1.14 mg/L	0 / 0	0.69 mg/L
Nov 6 / 07	0 / 0	0.99 mg/L	0 / 0	0.66 mg/L
Nov 20 / 07	0 / 0	1.63 mg/L	0 / 0	0.98 mg/L
Dec 4 / 07	0 / 0	1.01 mg/L	0 / 0	0.58 mg/L
Dec 18 / 07	0 / 0	1.46 mg/L	0 / 0	0.75 mg/L

Appendix D; Cartier WTP Fluoridation results

Dates / sampling period	Composite Result; mg/L
Period # 21; Dec 23 / 06 - Jan 5 / 07	0.90
Period # 22; Jan 6 – 19 / 07	1.00
Period # 23; Jan 20 – Feb 2 / 07	1.00
Period # 24; Feb 3 – 16 / 07	1.00
Period # 25; Feb 17 – Mar 2 / 07	1.00
Period # 26; Mar 3 – 16 / 07	1.10
Period # 1; Mar 17 – 30 / 07	1.00
Period # 2; Mar 31 – Apr 13 / 07	1.10
Period # 3; Apr 14 - 27 / 07	1.20
Period # 4; Apr 28 – May 11 / 07	1.10
Period # 5; May 12 - 25 / 07	1.10
Period # 6; May 26 – Jun 8 / 07	1.00
Period # 7; Jun 9 - 22 / 07	1.20
Period # 8; Jun 23 – Jul 6 / 07	1.10
Period # 9; Jul 7 - 20 / 07	1.20
Period # 10; Jul 21 – Aug 3 / 07	1.10
Period # 11; Aug 4 - 17 / 07	1.00
Period # 12; Aug 18 - 31 / 07	1.00
Period # 13; Sep 1 - 14 / 07	1.00
Period # 14; Sep 15 - 28 / 07	1.10
Period # 15; Sep 29 – Oct 12 / 07	1.00
Period # 16; Oct 13 - 26 / 07	1.00
Period # 17; Oct 27 – Nov 9 / 07	0.90
Period # 18; Nov 10 - 23 / 07	1.00
Period # 19; Nov 24 – Dec 7 / 07	1.10
Period # 20; Dec 8 - 21 / 07	1.00



Water Stewardship

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File: 36.00
 89.75
 211.75

April 8, 2008

Director and Board Members
 Cartier Regional Water Co-op Inc.
 1 – 126 Bridge Road
 Headingley MB R4H 1G9

Dear Director and Board Members:

RE: Annual Audit for the Cartier Regional Public Water System for Year 2007

This audit provides a summary of the Cartier Regional Public Water System’s performance related to meeting provincial regulatory requirements associated with the provision of safe drinking water for year 2007. This audit pertains all your treatment and storage facilities and distribution pipelines that are owned by the Cartier Regional Water Co-op.

The criteria used to assess compliance are Health Canada’s *Guidelines for Canadian Drinking Water Quality* (GCDWQ) and two regulations under to the *Drinking Water Safety Act* (DWSA), the *Drinking Water Safety Regulation* (40/2007) and the *Drinking Water Quality Standards Regulation* (41/2007).

1) Disinfection Monitoring and Reporting	Regulatory Requirement	System’s Performance
Free chlorine residual entering the distribution system Section 21(1) a – MR 40/2007	≥ 0.5 mg/L	100%
Free chlorine residual in the distribution system Section 22 a – MR 40/2007	≥ 0.1 mg/L	Compliance
Frequency of testing Schedule A – MR 40/2007	Daily/Continuously	Compliance
Report submissions Section 25(2) – MR 40/2007	Monthly	Compliance
<u>Comments:</u> Your water systems have met the regulatory requirements for disinfection monitoring and reporting for year 2007.		

2) Bacteriological Monitoring and Reporting	Regulatory Requirement	System's Performance
Number of raw/incoming water samples (each reservoir) Schedule A – MR 40/2007	26	Compliance
Number of treated water samples (each reservoir) Schedule A – MR 40/2007	26	Compliance
Number of distribution water samples Schedule A – MR 40/2007	26	Compliance
Frequency of testing Schedule A – MR 40/2007	Bi-weekly	Compliance
Total Coliform present in samples Section 3(1) a – MR 41/2007	0 TC per 100mL	Compliance
E.Coli present in samples Section 3(1) a – MR 41/2007	0 EC per 100mL	Compliance
<u>Comments:</u> Your water systems have met the regulatory requirements for bacteriological monitoring and reporting for year 2007		

3) Physical Monitoring and Reporting	Regulatory Requirement	System's Performance
Chemically assisted, rapid gravity filtration process (Cartier regional plant only) Section 6(1) a – MR 41/2007	≤ 0.3 NTU in at least 95% of the samples taken per month	n/a
	not to exceed 0.3 NTU for more than 12 continuous hours where continuous measurements are taken	
	not to exceed 1.0 NTU at any time	
Frequency of testing for turbidity (Cartier plant) Schedule B – MR 40/2007	Daily or continuous	Compliance
Report submissions Section 26 – MR 40/2007	Monthly	n/a
<u>Comments:</u> Turbidity reporting was not required in 2007, but will be a performance indicator in year 2008.		

4) Disinfection By-products Monitoring and Reporting	Regulatory Requirement	System's Performance
Trihalomethane sampling requirements Section 5(1) – MR 41/2007	4 times per year	Compliance
Total Trihalomethane Standard Schedule B – MR 41/2007	0.1 mg/L	Cartier: 0.053 mg/l St. F. Xavier: 0.087 mg/l Headingley: 0.099 mg/l
Bromodichloromethane sampling requirements Section 5(1) – MR 41/2007	4 times per year	Compliance
Bromodichloromethane Standard Schedule B – MR 41/2007	0.016 mg/L	Cartier: 0.018 mg/l St. F. Xavier: 0.028 mg/l Headingley: 0.052 mg/l
<u>Comments:</u> BDCM results indicate that your systems <u>failed</u> the BDCM maximum standards. However, the THM annual average standard was not exceeded. Your engineering assessment and compliance plan must address upgrading your system(s) to meet provincial standards.		

Haloacetic Acids (HAA)	Parameter	Test Results
2007 ODW Chemical Analysis: July 9, 2007	All HAAs	Below detection level
<p><u>Comments:</u> Haloacetic acids (HAA's) are chlorinated disinfection by-products found in drinking water. Though no guideline has been established to date by Health Canada for HAA's, there are concerns related to their presence in drinking water. Considering the matter as an emerging issue, the Office of Drinking Water has included HAA analysis in the yearly chemical audits to compile background data in the event that a future guideline is established.</p>		

5) Water Chemistry Analyses

The Office of Drinking Water submitted water samples from Cartier water plant for chemical analysis on July 9, 2007. The report indicated that the treated water met all health related guidelines with the exception of the following parameters:

Parameter	GCDWQ MAC	Your Results
Bromodichloromethane	0.016 mg/l	0.018 mg/l

The link to Health Canada's *Guidelines for Canadian Drinking Water Quality* website is: http://www.hc-sc.gc.ca/ewh-semt/water-eau/drink-potab/guide/index_e.html

6) Non Routine Events

In March 2007, construction crews working on Highway 1, damaged a water line underneath the road resulting in considerable loss of pressure. A small number of customers were affected by the interruption of supply. The damaged pipeline was isolated from the network and service was restored to most customers by diverting supply. All repairs were completed in a timely manner and service was restored. Subsequent bacteriological sampling confirmed the safety of water supply.

7) Corrective Actions Forms

The Corrective Action Form was introduced in the *Operational Guidelines for Monitoring and Reporting – Public and Semi-Public Water Systems* and discussed with your operator during our 2007 inspection. The form is to be completed in instances where a non-compliance issue is observed, but easily fixed. With the completion of the form, the water system is deemed compliant with provincial regulations.

The form specifies the following non-compliance incidents:

- Low disinfection residual entering the distribution system, 21(1) MR 40/2007
- Low disinfection residual in the distribution system, 22 MR 40/2007
- Filtered water turbidity exceeding the turbidity standards, 6(1) MR 41/2007
- Low positive total coliform (<10 CFU/100mL) 3 MR 41/2007
- Other – small water main repairs, etc.

The operators have been instructed to begin using these forms in the event of a non-compliance issue. The forms will be used as a compliance/monitoring tool for the 2008 water system audit.

8) Other Regulatory Requirements

The new regulations place greater responsibility on the owners and operators of public water systems to monitor water quality and ensure that the water system infrastructure can be relied upon to produce and deliver high quality water. The Office of Drinking Water has provided your facility with information on the new regulations. Some important submission deadlines to meet are:

- Engineering Assessment submission date: September 1, 2008
- Compliance Plan submission date: February 1, 2009

Co-operation in meeting the above submission dates will assist in processing applications and reports and enabling a water system's ability to meet compliance deadlines for water quality standards.

9) Emergency Reporting

This office must be notified immediately when emergencies occur that may result in an inability to supply safe drinking water. This includes instances where the community is unable to maintain adequate distribution system water pressures (e.g., during a pump failure).

An On-Call Drinking Water Officer program was initiated in the spring of 2007. For after hour emergencies please contact the 24-hour Environmental Emergency Line at (204) 944-4888 and ask to have the On-Call Drinking Water Officer contact you.

10) Summary

Your system has fulfilled its obligations in 2007 for disinfection and bacterial monitoring and reporting; however, the timely submission of the reports must improve in year 2008. In addition, you should address the non-compliance with the BDCM maximum standard in your engineering assessment and compliance plan.

The above assessment is based on records submitted to the Office of Drinking Water. If your records indicate a conflict with the above assessment, or if you have any questions concerning this report, or any other drinking water related issues, you may call me at (204) 945-8913.

Sincerely,



Gilbert Bushati
Drinking Water Officer

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