

BAYSVILLE WATER SUMMARY 2015 REPORT



DRINKING WATER WORKS PERMIT: 143-208
MUNICIPAL DRINKING WATER LICENCE: 143-108
M.O.E. WATERWORKS#: 260071435

INTRODUCTION

The Baysville Water Treatment Plant (W.T.P.) is owned and operated by the District of Muskoka. The plant serving the community of Baysville was commissioned in July, 2006. The treatment process consists of chemically assisted coagulation-flocculation, sedimentation, filtration, and disinfection by chlorination, fluoridation and pH adjustment. The reservoir is located at the water treatment plant. The Baysville WTP has a rated capacity of 1,100 m³/day and the water system currently serves a population of approximately 350 people.

The plant operates under MOE Certificate of Approval 5743-64ZKA4, issued January 31, 2005 and Certificate of Approval 4491-7N9R2R issued February 5, 2009. In addition, in October, 2015 the plant was issued license 143-108 and permit 143-208 under the Municipal Drinking Water Licensing Program. The plant also presently operates under MOE Permit To Take Water 8513-7DZNY3, which permits the operation of up to 1,100 cubic metres per day (m³/day).

The water source is Lake of Bays, a fairly large and clear body of water. The intake is located in 5 metres of water, about 385 metres from shore.

Legislation Requirements

Safe Drinking Water Act

In the Part Two Report in the Walkerton Inquiry, Commissioner Dennis O'Connor recommended that the Ontario Government enact a Safe Drinking Water Act to deal with matters related to treatment and distribution of drinking water. The Safe Drinking Water Act received royal assent in December, 2002.

The purpose of the Act is to gather in one place all legislation and regulations relating to the treatment and distribution of drinking water. The Act serves to protect human health through the control and regulation of drinking water systems and drinking water testing.

The foundation provisions of the Safe Drinking Water Act include:

- Purpose of the Act
- Definitions
- Minister's Powers and Duties
- Inspections
- Compliance and Enforcement
- Appeals and Offences

Ontario Regulations

The Ontario Government has enacted several supporting regulations under the Safe Drinking Water Act (2000) SDWA. These regulations combine previous requirements under the Ontario Water Resources Act and the new requirements under the SDWA. Key components of the regulations include:

- System Categories
- Groundwater Under Direct Influence Of Surface Water (GUDI)
- Exemptions
- Approval of Systems
- Treatment
- Testing and Operational Checks (General Rules)
- Operational Checks
- Microbiological Testing
- Chemical Testing
- Adverse Conditions
- Corrective Action
- Engineer's and Summary Reports

Municipal Drinking Water Licenses / Certificates of Approval

The Municipal Drinking Water Licensing Program has replaced the Certificate of Approval program for municipal residential drinking water systems. The Ontario Government has implemented the Municipal Drinking Water Licensing Program (MDWLP) as recommended by Justice O'Connor in the Part II Report of the Walkerton Inquiry. Justice O'Connor recommended a new approvals framework for municipal drinking water systems, which would require owners to obtain a license to operate their systems as well as incorporate the concept of quality management into their operations.

A municipal drinking water license is an approval that is issued by the MOE to owners under the Safe Drinking Water Act, 2002 for the operation of municipal residential drinking water systems. The District of Muskoka operated under various Certificates of Approval until October 2010 when the operating licenses were issued, these have since been renewed on 5 year intervals.

Previous Certificates of Approval were required for the establishment, replacement or alteration of all municipal drinking water systems. The Ministry of Environment (MOE) issued Certificates of Approval to ensure that all undertakings comply with the legislation (i.e. Acts and Regulations) and the Ministry's Environmental Guidelines and Procedures developed to provide consistency of approach to various aspects of environmental protection throughout the province.

Municipal Drinking Water Licenses and Permits similar to previous Certificates of Approval provide specific details about the drinking water system including:

Drinking Water System Description

Definitions and Information

General Information – Compliance, Other Legal Requirements, Adverse Affects, Inspections

Performance – Rated Capacity, Management of Residue

Monitoring and Recording – Flow Measuring Devices, Sampling

Operations and Maintenance

Comparison to Rated Capacity and Flow Rate

The Baysville Water Treatment Plant has a rated capacity of 1,100 m³/day. In 2015, the total monthly average daily flow for the year was 96.3 m³/day. The maximum day flow for the year was 351.9 m³/day, however the 3-year average for maximum day flow is also 360.3 m³/day, which represents 33% of the plant design capacity. (No problems have been associated with this flow).

Monthly flows are shown in the attached table.

The Permit To Take Water (PTTW # 8513-7DZNY3) permits 1,100 m³/day, therefore there were no exceedances of this permit.

Summary of Analytical Results

A total of 624 microbiological regulatory tests were performed in 2015 and all were acceptable results. There were 538 free chlorine residual tests performed in the distribution system and all results were satisfactory. Response was carried out for all adverse results by proper notification and corrective actions.

A summary of other analytical results is also shown in this report.

Summary of Treatment Chemicals

The following chemicals are used for the treatment of drinking water at the Birch Glen Water Treatment Plant:

Sodium Hypochlorite: Disinfectant

Polyaluminum Chloride: Primary coagulant

Hydrated Lime, Sodium Hydroxide, Carbon Dioxide: Alkalinity and pH adjustment

A chart summarizing the chemical use and average dosages is included in this report.

Documentation of System Repairs and Upgrades

No upgrades or significant repairs were undertaken in 2015.

External Audits

MOE Inspection

A MOE inspection was completed on September 21, 2015 and is attached to this report. The overall rating was 100%.

DWQMS Audit

In 2015 all drinking water systems had an external recertification audit performed. There were seven (7) minor non-conformances reported, all have subsequently been addressed and as a result all drinking water systems have been recertified. Overall, all drinking water systems are performing satisfactorily.

BAYSVILLE WATER DISTRIBUTION SUMMARY 2015

New Services

One new customer connected to existing water services in 2015
There were no new water services installed in 2015.

Broken Watermains

There were no broken watermains.

Service Leaks

There were no service leaks.

Frozen Watermain

There was one watermain that froze in 2015.
Carol St. 150 mm PVC watermain.

Frozen Services

There was one water service that froze in 2015.
10 Carol St 38 mm Poly water service.

New Watermains

No new watermains installed.

Valve Replacement

No valves were replaced.

Curbstops

No curb stop valves were repaired in 2015.

Fire Hydrants

There are a total of 57 fire hydrants, 5 of which are privately owned.

Water Meters

No meters were changed out in 2015.

Air Release Valves

All air-vacuum release valves were inspected in 2015.

Valve Replacement

No valves were added, replaced or repaired in 2015.

Locates

District Staff addressed 18 locate requests in 2015.