Environment Canada Environnement Canada

Canada

Wastewater Systems Effluent Regulations

May 5, 2017
Gander, Newfoundland and Labrador

Outline

- Overview of *Wastewater Systems Effluent Regulations* (WSER)
  - Part 1: Authorization to deposit
  - Part 2: Transitional & temporary authorizations
- Status of Newfoundland and Labrador Systems
  - Identification reports and level of treatment
  - Transitional Authorizations
  - Monitoring reports and exceedances
- Enforcement

WSER Overview

- The *Wastewater Systems Effluent Regulations* (WSER) came into force in July 2012

In the event of an inconsistency between this document and the Act and/or the WSER, the Act and the WSER prevail. Individuals with specific legal problems are urged to seek advice from legal counsel.

Application & Types of Systems

- Applicable to wastewater systems that collect, or are designed to collect, an average volume of 100 m^3/d or more of influent

- Two types of systems:
  - Intermittent (lagoons)
    - Hydraulic retention time (HRT) ≥ 90 days and maximum of 4 discharge periods/year
  - Continuous
    - All other wastewater systems
    - Specific conditions for continuous discharging lagoons with HRT ≥ 5 days

Part 1: Authorization to Deposit

- WSER authorize deposit of effluent containing deleterious substances if:
  - Effluent meets quality standards & is not acutely lethal, OR
  - Deposit is made in accordance with a transitional or temporary authorization

- Effluent quality standards - in effect **January 1, 2015**

Carbonaceous biochemical oxygen demand (CBOD)	**Suspended solids (SS)**	**Total residual chlorine (TRC)***	**Un-ionized ammonia (NH_3) (expressed as nitrogen, at 15°C ± 1°C)**
average	average	average	maximum
≤ 25 mg/L	**≤ 25 mg/L**	**≤ 0.02 mg/L**	**< 1.25 mg/L**

* TRC standard for systems < 5000 m^3/d is in effect **January 1, 2021**

Monitoring Requirements

- As of **January 1, 2013**:
  - Monitor daily volume of influent or effluent
    - Requirements determined by system type & size
  - Monitor deleterious substances in effluent
    - Sampling frequency & type determined by system type & size
    - NH_3 monitoring requirement ended June 30, 2014
- As of **January 1, 2015**:
  - Acute lethality monitoring for systems > 2,500 m^3/d
    - Sampling frequency varies
    - EPS 1/RM/13 rainbow trout test, with or without pH stabilization (EPS 1/RM/50)
- Accredited laboratory required to conduct tests

Reporting Requirements

- Identification report
  - 1st reporting requirement; identifies system as part of regulated community
  - Due **May 15, 2013** if system is in operation on January 1, 2013 or
  - Within **45 days** after system comes into operation, in any other case
- Monitoring report
  - Due **45 days** after end of calendar year or quarter, depending on type & size of system
  - Ongoing data to assess compliance with effluent quality standards
- Combined sewer overflow (CSO) report
  - Due **February 15** of the following year
  - Applies to systems with at least one CSO
  - Information on deposits via overflows
- Reports submitted electronically to the authorization officer

Record-keeping Requirements

- Began **January 1, 2013**, & include:
  - For deposits via final discharge point:
    - Dates of deposits & daily volumes
    - Dates of no deposit
    - Average annual daily volume deposited
    - Information on monitoring equipment (continuous systems only)
    - Results of laboratory analyses
    - Types of samples taken and dates of sampling
  - For combined sewer overflows (CSO):
    - Dates effluent deposited, & duration, volume for each day
    - Monthly volume deposited
    - Number of days per month effluent was deposited
  - For receiving environment:
    - NH_3 determinations in August if system is under a temporary authorization for NH_3

Part 2: Transitional and Temporary Authorizations

- Effluent from the final discharge point that does not meet the effluent quality standards may be deposited if the deposit is made in accordance with an authorization issued under Part 2
- Types of Authorizations:
  - Transitional authorization to achieve secondary wastewater treatment
  - Temporary authorization to deposit un-ionized ammonia when effluent is acutely lethal due to un-ionized ammonia
  - Temporary authorization to bypass

Transitional Authorization

- Could apply from **January 1, 2013** to **June 30, 2014**, if average CBOD and/or SS exceeded 25 mg/L in the effluent deposited from the final discharge point for specified period(s)
- Authorization period began **Jan 1, 2015** until **December 31, 2020, 2030**, or **2040**
  - Duration determined by point totals allotted as per Schedule 2 (and 3 if applicable)
  - Allows time for system upgrades to meet effluent quality standards
- Includes site-specific limits for the prescribed deleterious substances
- Compliance obligations include
    - Effluent monitoring & reporting
    - Perform system upgrade
    - Submit progress report

Temporary Authorization to Deposit Un-ionized Ammonia (NH_3)

- May apply if effluent is acutely lethal because of NH_3, and if:
  - NH_3 concentration 100 m from the point of entry, is ≤ 0.016 mg/L N, and
  - Acute lethality of effluent is primarily due to NH_3
- Application must be submitted within 30 days after determination of acute lethality due to NH_3
- Issued for **3-year period**, renewable for successive 3-year periods
- Allows deposit of effluent that meets CBOD, SS and TRC standards but is acutely lethal due to NH_3
- Compliance obligations include
  - Effluent monitoring & reporting, with NH_3 monitoring at same frequency as CBOD and SS
  - Determine NH_3 concentration in receiver once during August

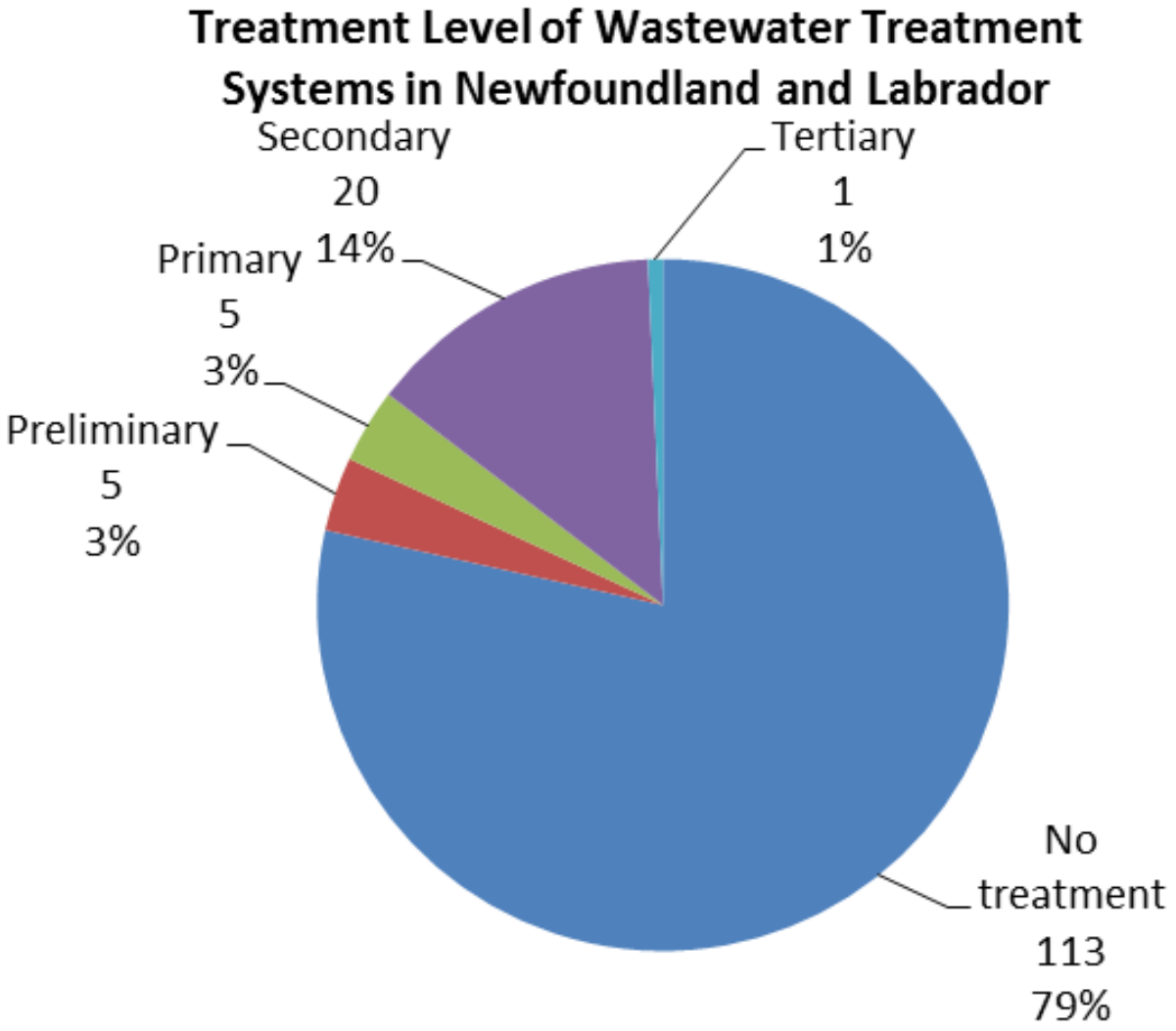
Temporary Bypass Authorization

- Application for a temporary bypass authorization
  - May be made for construction work or maintenance on the system, or in response to an anticipated event beyond owner or operator control
  - Bypass must be designed to minimize the volume of effluent and the concentration of the prescribed deleterious substances deposited
  - Must be submitted electronically to the authorization officer at least **45 days before** the bypass is to occur
- Content of application
  - Information on location, period, duration, estimated volume of effluent
  - Explanation of how the impact of the bypass will be minimized

STATUS OF SYSTEMS IN NEWFOUNDLAND AND LABRADOR

Identification Reports and Level of Treatment

- 144 covered systems out of an estimated 184 have submitted an identification report in NL
- 21 of these systems are at secondary level of treatment or greater



Transitional Authorizations

- Transitional Authorizations were issued for five systems in NL

Owner Name	Systems Name	System City	TA Deadline
City of St. John's	St. John's Harbour	St. John's	Dec. 31, 2020
Town of Gander	Beaverwood STP	Gander	Dec. 31, 2030
Town of Springdale	Hospital Outfall	Springdale	Dec. 31, 2030
Town of Springdale	Island Rock Cove Outfall	Springdale	Dec. 31, 2030
Town of Springdale	Town Center Outfall	Springdale	Dec. 31, 2040

Monitoring Reports and Exceedances

- Compliance with monitoring requirements is continuously improving
- Upgrades needed to reduce the number of exceedances

Year	ID Reports Received[1]	Systems Submitting Monitoring Reports[2]	Missing Monitoring Reports	Systems with SS and CBOD Exceedances[3]
2015	87	84	96 (29%)	70 (83%)
2016	134	115	92 (19%)	101 (88%)
2017	144	-	-	-

1- ID reports submitted by the end of 2015 and 2016 and as of April 2017
2- Not all of these systems submitted all of the required monitoring reports
3- Percentage based on the number of systems submitting monitoring reports

Compliance with the WSER

- The *Compliance and Enforcement Policy for the Habitat Protection and Pollution Prevention Provisions of the Fisheries Act* is applied in determining enforcement action

  https://www.ec.gc.ca/alef-ewe/default.asp?lang=En&n=D6B74D58-1

Additional Information

- The *Wastewater Systems Effluent Regulations* are available online at: http://laws-lois.justice.gc.ca/eng/regulations/SOR-2012-139/FullText.html
- Additional information may also be obtained at EC's website: www.ec.gc.ca/eu-ww
- Questions?
  - email ec.eaux-usees-wastewater.ec@canada.ca
  - telephone 819-420-7727