The Effluencer

VOL. 2

Continuously Discharging Wastewater Systems with Hydraulic Retention Time ≥ Five Days

The *Wastewater Systems Effluent Regulations* (the Regulations) may apply to your wastewater system if:

- It collects an average daily volume of 100 cubic metres (m^3) or more of influent in a given calendar year, and
- It deposits effluent into water frequented by fish, or into a place that may enter water frequented by fish.

The requirements set out below apply to owners and operators of continuously discharging wastewater systems with a hydraulic retention time (HRT) of five or more days that are subject to the Regulations. This type of system is typically a continuously discharging lagoon.

Identification Report	
Report submission	▸ Once, within 45 days after the wastewater system comes into operation. ▸ If a wastewater system has multiple final discharge points, one identification report must be completed for each final discharge point.
Information required	▸ Contact details of the owner, operator, contact person and address of the wastewater system. ▸ A statement indicating that the wastewater system is continuously discharging and has an HRT ≥ five days. ▸ A description of the type of wastewater treatment (e.g. aerated lagoon, facultative lagoon, etc.). ▸ A statement whether chlorine, or one of its compounds, is used in the treatment of wastewater and if so, a statement indicating a dechlorination system is installed, operated and maintained according to paragraph 6(7)(h). ▸ A statement indicating which entity owns and which entity operates the system. ▸ Information on the receiving environment (including latitude and longitude) at the locations below: • The final discharge point (i.e. the final sampling point location after the treatment process). • The point of entry for the final discharge point (where the effluent is deposited into the receiving environment). • The overflow points for combined and sanitary sewers (the point(s) where excess wastewater is deposited into the receiving environment), if applicable. ▸ The average daily volume of effluent deposited via all of the wastewater system's final discharge points, expressed in m^3. ▸ A statement indicating how the volume is being determined.
Change of information	Updated report due within 45 days after the change.

Monitoring reports are required for each wastewater system on a regular basis. If a wastewater system has multiple final discharge points, one monitoring report must be completed for each final discharge point.

Monitoring Report				
Annual Average Daily Volume (m^3)	**≤ 2 500**	**> 2 500 to ≤ 17 500**	**> 17 500 to ≤ 50 000**	**> 50 000**
Volume Deposited				
Daily volume determination	Monitoring equipment - Systems with a transitional authorization can use a method of estimation based on generally accepted engineering practices with a margin of error of ± 15%.	Monitoring equipment		
Effluent Quality: Carbonaceous Biochemical Oxygen Demand (CBOD), Suspended Solids (SS)				
Average limit (for CBOD and SS)	≤ 25 mg/L - Systems with a transitional authorization can be given site-specific limits.			
Averaging period	Annually	Quarterly	Monthly	
SS exemption	If your lagoon is experiencing algae or invertebrate blooms, you are allowed to exclude any results of SS that exceed 25 mg/L during four months from May to November when determining the average. The months do not have to be consecutive. If all of the SS results within one averaging period exceed 25 mg/L and fall in the eligible months, the SS average is deemed to be equal to 0 mg/L.			
Type of sample	Composite or grab			
Sampling frequency	Quarterly, but at least 60 days after any other sample	Every two weeks, but at least seven days after any other sample	Weekly, but at least five days after any other sample	Three days per week, but at least one day after any other sample
Sample procedure	Samples must be collected at the final discharge point(s). However, samples can be collected at a location other than the final discharge point if: ▸ Effluent samples are representative as if they had been collected at the final discharge point. ▸ The sampling location and sampling procedure are determined by a licensed professional, and recorded in a document.			
CBOD testing	Five-day BOD test with nitrification inhibition conducted by an accredited laboratory.			
SS testing	Total suspended solids test conducted by an accredited laboratory.			
Effluent Quality: Total Residual Chlorine (TRC)				
Average limit	≤ 0.02 mg/L			
Sampling	There are no sampling requirements.			
Testing	There are no testing requirements.			
Regulatees that use chlorine, or one of its compounds, in their treatment process must install, operate and maintain a dechlorination system such that the concentration of total residual chlorine must not exceed 0.10 mg/L in a grab sample.				

Monitoring Report				
Annual Average Daily Volume (m^3)	**≤ 2 500**	**> 2 500 to ≤ 17 500**	**> 17 500 to ≤ 50 000**	**> 50 000**
Effluent Quality: Un-ionized Ammonia (NH_3)				
Maximum limit	< 1.25 mg/L, expressed as nitrogen (N) at 15°C ± 1°C - Systems with a transitional authorization can be given a different site-specific limit.			
Total ammonia testing	Total ammonia test conducted by an accredited laboratory.			
PH test method	PH test conducted by a laboratory accredited.			
Sampling	There are no sampling requirements.			
Effluent Quality: Acute Lethality				
Standard	Effluent cannot be acutely lethal to rainbow trout.			
Type of sample	Grab			
Normal sampling frequency	Not required	Quarterly, but at least 60 days after any other sample		Monthly, but at least 21 days after any other sample
Reduced sampling eligibility	Not applicable	Samples taken over four consecutive quarters were determined not to be acutely lethal.		Samples taken over 12 consecutive months were determined not to be acutely lethal
Reduced sampling frequency	Not applicable	Annually, but at least six months after any other sample		Quarterly. but at least 60 days after any other sample
Increased sampling frequency upon failure	Not required	Sampling without delay once a sample is determined to be acutely lethal and every two weeks afterwards, but at least seven days after any other sample, until three consecutive samples are found not to be acutely lethal. Sampling goes back to normal frequency afterwards.		
Procedures	Single or multiple concentration with or without pH stabilization conducted by an accredited laboratory.			
Reference Method EPS 1/RM/13	Procedure set out in section 5 or 6 of *Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout* (EPS 1/RM/13 Second Edition).			
Procedure for pH Stabilization EPS 1/RM/50	*Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout* (EPS 1/RM/50).			
Reporting				
Reporting frequency	Annually	Quarterly		
Report due	Within 45 days after the end of the calendar year (February 14).	Within 45 days after the end of the quarter (February 14, May 15, August 14, November 14).		

Monitoring Report				
Annual Average Daily Volume (m^3)	**≤ 2 500**	**> 2 500 to ≤ 17 500**	**> 17 500 to ≤ 50 000**	**> 50 000**
Information required	▸ A statement that indicates whether effluent was deposited via the final discharge point during the reporting period. ▸ If effluent was deposited during the reporting period: • The months that effluent was deposited via the final discharge point. • The number of days effluent was deposited. • The total volume in cubic metres (m^3) of effluent deposited via all of the system's final discharge points. • The average CBOD concentration in mg/L at the final discharge point. • The average SS concentration in mg/L at the final discharge point. • For each sample for which a determination of acute lethality was made at the final discharge point, a statement that indicates: – The sampling date; – The procedure used in Reference Method EPS 1/RM/13; – Whether the pH stabilization procedure EPS 1/RM/50 was used; – If the sample was acutely lethal.			

Combined Sewer Overflows (required for systems with more than one combined sewer overflow point)	
Recording	
Each day there is a deposit	▸ Date of deposit via each combined sewer overflow point. ▸ Duration or estimated duration of deposit in hours. ▸ Volume or estimated daily volume in m^3.
Reporting	
For each month a deposit occurs	▸ Volume or estimated volume of effluent deposited via each overflow point in m^3. ▸ Number of days effluent was deposited via each overflow point in m^3.
For each month there is no deposit	▸ A statement indicating no deposit.
Reporting frequency	Annually
Report due	No later than February 15.

Record Keeping
Keep all related records on site for a minimum of five years.

Authorizations (if applicable)	
Apply for authorizations in the online reporting system (ERRIS).	
Temporary Authorization to Deposit Un-ionized Ammonia (NH_3)	
Purpose	For systems that have issues with ammonia but are otherwise compliant with the other effluent quality limits.
Initial application period	Within 30 days after the determination that the acute lethality of the effluent is primarily because of the concentration of NH_3.

Authorizations (if applicable)	
Application period for extension	At least 90 days before expiry of current authorization.
Duration	Valid for three years with option to extend for successive periods of three years.
Temporary Bypass Authorization	
Purpose	Authorization to exceed the standards of the Regulations for maintenance and construction activities.
Application period	At least 21, 45, or 90 days before bypass to address: ▸ Construction work to make changes to the system. ▸ Maintenance of the system. ▸ Response to an anticipated event beyond control of system owner / operator.
Duration	As specified in the authorization (variable).
Transitional Authorization	
Purpose	Extension to allow wastewater systems to upgrade their facilities to meet a secondary level of treatment.
Application period	No deadline to apply.
Duration	Until the end of 2030 or 2040 depending on level of risk.

Unauthorized Deposits	
Description	Any release of deleterious substances that may enter water frequented by fish and that is not authorized by the Regulations is considered an unauthorized deposit under the *Fisheries Act*.
Requirements	Unauthorized deposits are subject to specific notification, reporting and mitigation requirements under the Regulations and the *Fisheries Act*.
More information	Consult the factsheet on Procedures for Unauthorized Wastewater Deposits.

For Additional Information

Visit the Wastewater website at Canada.ca/wastewater

If the information you need is unavailable on our website, please contact Environment and Climate Change Canada at eu-ww@ec.gc.ca.

Disclaimer

This information does not in any way supersede or modify the *Wastewater Systems Effluent Regulations* or the *Fisheries Act*, or offer any legal interpretation of those Regulations or Act. Where there are any inconsistencies between this information and the Regulations or Act, the Regulations or Act take precedence, respectively. A copy of the Regulations is available at the following website: https://laws-lois.justice.gc.ca/eng/Regulations/SOR-2012-139/FullText.html

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